

Course Syllabus

BPI Building Analyst Online Training



INFINITE EXPERTISE.

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PART 1: COURSE INFORMATION

Instructors

Instructor(s): Scott Doyle, Glenn Pease, Matt Thornberry, and other instructors as necessary
Office: Online Course, EnergyLogic Academy
Technical Support Questions: meagan.foster@nrglogic.com, matt.thornberry@nrglogic.com
Material Questions: scott@nrglogic.com

Course Description

This course is designed to prepare students to earn the Building Performance Institute (BPI) Building Analyst certification. During the online portion of this course, we will cover the standard classroom materials including building science, energy flow, thermal shell, mechanical systems, diagnostic testing, health, safety, and durability of homes.

Students who successfully pass this course will need to join EnergyLogic, or a qualified training affiliate, to complete field training. The field portion has a separate syllabus.

Textbook and Course Materials

The following texts are required/recommended for this course, and can be ordered [here](#):

-  **Required: Residential Energy (5th edition)** -- John Krigger & Chris Dorsi (2009), Saturn Resource Management
-  **Recommended: Energy Auditor Field Guide** -- John Krigger & Chris Dorsi (2009), Saturn Resource Management





Course Delivery

EnergyLogic Academy online trainings provide learning experiences that are more interactive and better tailored to the needs of individual students than is possible in traditional classrooms. Our students find the opportunities to “learn by doing,” to learn at their own pace, and to develop lively discussions with other students and their teacher create an environment that is both engaging and useful.

EnergyLogic uses Moodle for its learning management system. Moodle is an Internet-based course management system that is used for delivery of courses online and runs as an interactive website with features and activities designed to promote learning and collaboration in an asynchronous environment. An asynchronous environment, which means “not at the same time,” allows the learner to complete EnergyLogic courses on his/her own time and schedule. A student in this environment typically learns without live interaction with the instructor. Students communicate with each other and the instructor through discussions (known as forums), chat rooms, and email. A dynamic and supportive community will develop as we work through the course material.

Course Requirements

To access the online course, you will need the following:

-  Internet Access. Broadband or high-speed internet access is strongly recommended. Broadband includes DSL, cable, and wireless connections.
 - Dial-up Internet connections will result in a diminished experience where Moodle pages may load slowly.
-  Email Account. If you change email addresses after you set up a Moodle account, be sure to update your new email address in your account profile.
-  Login Credentials for our LMS (username and password)
-  Good Headphones. We recommend these for listening to the narrated audio resources.




Browser and Hardware Configuration

Browser: We recommend using Firefox, Safari, or Chrome for your browser. Internet Explorer 9 blocks some of the functionality in the course and will cause errors. If you prefer IE, you will need to take special steps to configure the browser to work with the learning management system: <http://windows.microsoft.com/en-US/windows7/why-do-some-webpages-look-incorrect-in-internet-explorer-9>

Java and Adobe Flash Requirements: You will need the Java plug-in and Adobe Flash V8.0 or higher in order to complete lessons, take tests, and run the streaming visual presentations.

-  Java: <http://www.java.com/en/download/index.jsp>
-  Adobe Flash Player: <http://www.adobe.com/support/flashplayer/downloads.html>

Pop-Up Windows: Moodle uses pop-up windows, so you will need to disable pop-up blockers in your browser and any other pop-up blockers (such as those which may be provided through your Internet service provider, your anti-virus software, and or your search bar in your browser such as Google).

-  Internet Explorer's Built-In Popup Blocker: <http://windows.microsoft.com/en-US/Windows7/Internet-Explorer-Pop-up-Blocker-frequently-asked-questions>
-  Firefox: <http://support.mozilla.org/en-US/kb/Pop-up%20blocker>
-  Google Chrome: <http://support.google.com/chrome/bin/answer.py?hl=en&answer=95472>

Course Structure

This course will be delivered entirely online through Moodle, our learning management system. You will use your account to log in to the course from the EnergyLogic Academy Login Page: <https://nrglogic.mrooms3.net/login/index.php>

In the EnergyLogic Academy, you will access online lessons, course materials, and resources. At designated times throughout the training, we will participate in a blend of self-paced and group-paced activities using the EnergyLogic Academy and alternative internet-based technologies. Participation will consist of learning resources, activities, discussion forums, and quizzes.

The course is divided into sections called modules. These modules are integrative, so each one is built off knowledge gained from the previous one. Please complete module 1 before module 2, and module 2 before 3, and so on.







When each module opens, please plan to complete that module that same day. This will be an important part of successful completion of the course. *If you do not complete each module, it will be unlikely that you will pass the course.* Please refer to our Grading Policy (Part 4 of this syllabus) for information on successfully completing the course.

PART 2: COURSE OUTCOMES






This training is designed to produce well-rounded basic residential energy auditors capable of conducting energy audits on existing homes. It will provide a comprehensive overview of the field of building science. You will be exposed to the breadth and depth of building science and its many applications to the everyday world of energy auditors. The introduction will segue into more detailed examinations of the basic building blocks of building science.

Course Objectives are listed below.

Objectives

-  To build understanding of BPI Building Analyst Standards, industry structure, and work scope development
-  To build a toolkit to understanding building science and energy in the home
-  To build knowledge of the thermal enclosure system of the home
-  To build a foundational knowledge of the mechanical systems in the home
-  To introduce diagnostic testing processes and equipment
-  To emphasize health, safety, and durability of residential energy improvements

You will meet the objectives listed above by completing the following activities in this course:






-  Complete each module, and all items within each module, on the day the module opens
-  Participate in the social interactions in the course
-  Assume a leadership role when necessary; help other students when you have knowledge they don't
-  Manage your time in the course
-  Approach the course with a desire to learn

PART 3: TOPIC OUTLINE






This is a 4 week course with 20 modules. A general schedule of when each module is opened is included below. Managing your time will be critical to your successful completion of the course. Each module will require a minimum of 2 hours to complete, and some of the modules will take longer.

Weekly Outline






Week 1:

-  Module 1 – Welcome (Monday)
-  Module 2 – Thermodynamics (Tuesday)
-  Module 3 – Air Flow (Wednesday)
-  Module 4 – Moisture (Thursday)
-  Module 5 – Systems Thinking (Friday)






Week 2:

-  Module 6 – Analyzing Consumption (Monday)
-  Module 7 – Lighting & Appliances (Tuesday)
-  Module 8 – Framing (Wednesday)
-  Module 9 – Insulation 101 (Thursday)
-  Module 10 – Windows, Doors, & Skylights (Friday)

Week 3:

-  Module 11 – Air & Vapor Barriers (Monday)
-  Module 12 – Heating (Tuesday)
-  Module 13 – Cooling (Wednesday)
-  Module 14 – Water Heating (Thursday)
-  Module 15 – Blower Door (Friday)

Week 4:

-  Module 16 – Duct Blaster (Monday)
-  Module 17 – Thermography (Tuesday)
-  Module 18 – Pressure Diagnostics (Wednesday)
-  Module 19 – Combustion Safety, Standards (Thursday)
-  Module 20 – Simulated BPI BA Exam (Friday)

Time Commitment

E-learning provides a convenient approach to training. You can complete the modules at any point during the day. This allows a limited self-paced environment to meet the obligations of the course. However, it is important to understand that this does not mean the course does not take a large commitment from you.





We expect each module to take between 2-4 hours to complete. With 5 modules per week, you should expect to spend between 10 to 20 hours each week in the class. Please make sure to budget your time appropriately.

PART 4: GRADING POLICY

Your overall score is the culmination of your scores for each module, which are a combination of scores for each section (the modules will be broken down further below). A total course score of 80% or greater, including a score of at least 80% on each quiz and the final exam, is necessary to receive a passing grade. You can take the module quizzes and the final exam as many times as you would like/need to.

Between 80% and 89% is acceptable, but indicates there were modules in the course where you need to do some more work. Students scoring lower than 80% on a module are expected to return to that module and improve the score before it closes. A score of 90% or greater shows a good understanding of the material.

Each module has a total point value of 100 points, with those points generally breaking out as follows:

-  Learning Resources: 25 Points
-  Activity: 25 Points
-  Social: 25 Points
-  Evaluation: 25 Points




Learning Resources (25 Points)

Each module will have a section of learning resources. These are Adobe Flash presentations and documents designed to teach you about the module topic.

The LMS will report your activity based on the percentage of slides viewed. You are required to view all learning resources to receive credit for this section. Please make sure to complete 100% of the learning resources to receive credit, which includes listening to the last slide. Some slides are interactive with hyperlinks, mouse-over graphics, and pop quizzes – so you should plan to be fully engaged with these learning resources. Multi-tasking is strongly discouraged when going through these resources.



Activities (25 Points)

Each module will have an activity section. Typical activities include web research, reviewing case studies, inspecting your residence, among others. There will be clear instructions on each module outlining what needs to be done to complete the activity. Your activity will be scored according to the following:

-  Complete = 25 Points
-  Satisfactory = 20 Points
-  Partially Complete = 5 Points

Socials (25 Points)

A cornerstone of successful online learning is establishing the social component that exists with live training. We do this by adding a forum to each module where students discuss the topic covered. You will receive the total 25 points by doing both of the following:

-  Create a New Discussion in the Module Forum = 15 Points
-  Respond to a Colleague's Post = 10 Points

Evaluations (25 Points)

Each module will have a quiz associated with the topic. Each quiz needs to be passed with an 80% or higher grade. Quizzes can be taken as many times as needed.

Progress Reports

EnergyLogic will provide you with a progress report each Wednesday. This will give you your score for the modules that you have completed up to that point.

PART 5: COURSE POLICIES

Each student is an important member of our class community and has a responsibility to support and contribute to the course's learning community. This responsibility is to yourself, your instructor(s), as well as your classmates. These policies are established to ensure that all students have a clear understanding of the expectations the instructor has regarding conduct in this course.




EnergyLogic respects the students who attend our training to help us create a more sustainably built environment. The intent of these policies is to have an enforceable position. In truth, we hope that we will never have to enforce the policies outlined in this section. Your professionalism will go a long way toward ensuring this.

If for any reason you need to report a violation of course policies, please feel free to send a private email message to one of the instructors. This will be confidential and your instructor will find a solution that helps resolve any problems.






Student Code of Conduct

Please become familiar with the specifics of the course code of conduct, listed below. Students who intentionally abuse the system will be removed from the course without refund.

Student Interaction:

-  Treat all other students, instructors, and guests with dignity and respect.
-  Abusive or offensive language will not be tolerated. Those who submit language deemed inappropriate, threatening, or offensive will be removed from the course with no refund.
-  Participate respectfully in team collaborations and team projects.

E-learning requires self-motivation and self-direction, so approach the course with the following behaviors:








-  Manage your time
-  Approach the course with a desire to learn
-  Assume a leadership role when necessary; help other students when you have knowledge they don't
-  Contribute to all forum discussions; this is the foundation of e-learning
-  Submit constructive suggestions for course improvements

Forum Discussion Policy

The forums located throughout your course are a critical part of your learning experience. We are approaching our e-learning courses from a social constructivism teaching style. This means that you will build knowledge of the subject together with your instructors and colleagues through discussion and activities.

Each module will have graded forum activities. To receive a course completion certificate, you will need to participate in each of the forums. Students are expected to submit a unique post to each forum **in addition to** responding to at least one of your classmate's posts. Hopefully you will respond to many more than one, and will make it a point to be an integral part of the social component of this course. Your addition to a forum may be the key to understanding a topic for one of your classmates.

Forum Guidelines:




-  Forum questions will be posted by the instructor and there will be a deadline for the submission of your responses to receive credit.
-  Students are expected to focus on the module-specific materials. For other information or discussions, feel free to use the general discussion forum in the top course block.
-  Your instructor may schedule chat sessions where all participants must attend. This will be posted in the class schedule so you can put it on your calendar in advance.
-  Students will receive a grade on discussion postings. Points are earned based on the quality of responses and compliance with the required number of postings.
-  All students have a right to express their own opinions in discussions, and every other student must respect this right.
-  Posting abusive or insulting messages will not be tolerated. This activity will result in removal from the course without refund.
-  The highest level of professionalism is requested in this activity. Forums are the key to learning together.

Email Policy




The learning management system will email you new information on forum updates, class instructions, and general news. It is your responsibility to check your email daily for these messages. Email communication can be managed from your profile in the learning management system. We encourage you to receive all email updates during the course, but you can choose to remove yourself from certain updates to help you manage the flow of communication.

To manage the quantity of email an instructor will receive, we have set some guidelines regarding when to email your instructors. We encourage you to post your questions in the forum discussion area whenever possible. One of the foundations of e-learning is social interaction with the other students in your course; given this, asking specific questions about the topic being covered is better suited for the forum because it will help your classmates understand the material as well. In our experience, the students who ask questions and interact with other students are the most successful.

Your instructor will answer email about:

-  Questions arising from difficulty in understanding course content, if the forum discussions are not helping you understand the materials
-  Requests about graded assignments
-  Confidential issues appropriate for discussion within the instructor-student relationship

Your instructor will not answer email that:

-  Poses questions already answered in the course information sections of the site
-  Lacks a subject line clearly stating the purpose of the email
-  Raises an inappropriate subject

PART 6: SYLLABUS ACCEPTANCE

We hope that the information covered here will help ensure your success in this course and beyond. Now that you have read through the syllabus, you probably understand that student learning in the EnergyLogic Academy is anything but passive – your active participation and consistent effort will make this a successful learning experience for you as well as your fellow students (and future colleagues!).

Thank you for joining our BPI Building Analyst Online Training! Upon completion of the course, you will become an EnergyLogic Academy alum and will receive periodic offers on future courses. We look forward to seeing you at future trainings and helping you meet all of your professional development needs!