



CLEAN ENERGY ACADEMY COURSE SYLLABUS

COURSE OVERVIEW DESCRIPTION:

This course is intended for individuals looking to become an auditor or for auditors presently working on Building Heating Systems in Small-Medium Business (SMB) and other small commercial-focused energy efficiency programs. This course is also intended for individuals looking for a Program Management role in the SMB or other small commercial-focused energy efficiency programs. This course is designed to provide knowledge and skills in Building Heating Systems to improve the adoption of energy measures by small commercial customers, through improved abilities of basic technologies as well as to offer additional technologies that may not be part of the standard audit. Emphasis is placed on the auditor's ability to recognize the customer's Building Heating Systems energy needs, opportunities and how these opportunities may relate to other key-success aspects of the business. All Building Heating Systems Course curriculum is directly aligned with the Building Performance Institute (BPI) Building Analyst (BA) and Multi-Family Building Analyst (MFBA), both are the leading certifications in this industry. With this unique prospective, it will allow individuals seeking Project Management positions to have a grounded foundation in not only specific Building Heating Systems but also the economic landscape, tools needed to navigate career paths in the industry.

LEARNING OBJECTIVES:

The objective of the program is, broadly, to improve performance of Building Heating Systems energy efficiency programs serving the Small Commercial market segment. The Energy Auditor is seen as a key catalyst in the decision-making of the Small Commercial customer. Accordingly, the training program seeks to improve auditor skills both in helping customers with what have become standard technology upgrades (e.g. – Heating Systems and Domestic Hot Water Systems) and more advanced technologies.

COURSE STRUCTURE

- The course consists of 20 class sessions, for a total of 60 hours of classroom instruction.
- To successfully complete the training, students must show acceptable attendance and must submit projects and complete a final exam.
- Online readings will also be assigned on an optional/as-needed basis.

Class Breakdown

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| Class 1 – Green Economy 1 | Class 11 – Green Economy 3 |
| <ul style="list-style-type: none"> • Industrial Revolution • Green Economy Overview • Green Training & Certifications | <ul style="list-style-type: none"> • City Policies + Programs • State Policies + Programs |
| Class 2 – Green Economy 2 | Class 12 – Heating Systems 1 |
| <ul style="list-style-type: none"> • NY Green Economy Players • Green Economy Market Drivers | <ul style="list-style-type: none"> • Heating Principles • Combustions Science 2 • Heat Sources 2 |
| Class 3 – Building Envelope 1 | Class 13 – Heating Systems 2 |
| <ul style="list-style-type: none"> • Energy Principles • Building Science | <ul style="list-style-type: none"> • Heating Systems 1 (Steam) |
| Class 4 – Building Envelope 2 | Class 14 – Heating Systems 3 |
| <ul style="list-style-type: none"> • Construction Process | <ul style="list-style-type: none"> • Heating Systems 2 (Hot Water) |
| Class 5 – Building Envelope 3 | Class 15 – Heating Systems 4 |
| <ul style="list-style-type: none"> • Air Movement | <ul style="list-style-type: none"> • Heating Energy Conservation Measures |
| Class 6 – Building Envelope 4 | Class 16 – Heating Systems 5 |
| <ul style="list-style-type: none"> • Moisture Movement | <ul style="list-style-type: none"> • Program Implementation |
| Class 7 – Building Envelope 5 | Class 17 – Heating Systems 6 |
| <ul style="list-style-type: none"> • Heat Movement | <ul style="list-style-type: none"> • Standards & Codes |
| Class 8 – Domestic Hot Water 1 | Class 18 – Heating Systems 7 |
| <ul style="list-style-type: none"> • DHW Principles • Combustion Science 1 • Heat Sources 1 | <ul style="list-style-type: none"> • Combustion Safety Testing |
| Class 9 – Domestic Hot Water 2 | Class 19 – Energy Management 1 |
| <ul style="list-style-type: none"> • DHW Systems | <ul style="list-style-type: none"> • Energy Modeling Software |
| Class 10 – Domestic Hot Water 3 | Class 20 – Energy Management 2 |
| <ul style="list-style-type: none"> • DHW Energy Conservations Measures | <ul style="list-style-type: none"> • Energy Modeling Software |

At the end of the course, students will:

- Be familiar with the industry-standard energy auditing and building performance analysis process: including Building inspection Data collection & Input Equipment diagnostics Equipment Use, Cost and Efficiency Calculations Audit Report Generation
- Be able to perform ASHRAE level 1 and 2 energy audits for small commercial facilities
- Be proficient in the use of ConEdison SMB Excel tool software, Excel-based utility billing analysis, and energy benchmarking using the energy modeling software.
- Have built sales & marketing, financial analysis, and project management skills in tandem with their energy auditing proficiency.
- Be versed on the relevant Economic Incentives: including the Utility-Administered (ConEdison's) SMB, C&I & TDM programs, and Government-Administered (NYSERDA's) FlexTech, Existing Facilities & GJGNY Programs, and understand the connection between these incentive programs and career opportunities, specifically in commercial Heating sales, auditing and retrofitting.
- Be able to Identify Energy Systems, including: Heating and Building Science, specifically the System Types and Components, Efficiency Ratings, and Conservation Measures
- Be familiar with Energy Efficiency Strategies: including Improved Controls, Operations & Maintenance, Retro Commissioning, Retrofits & Upgrades, and Reduced Consumption.