

# Energy Codes Training

## Issues and Options

### Nebraska Compliance Toolkit

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## TRAINING FORMAT

### Standard Classroom Lecture

While a classroom or lecture format is most often used in energy codes training, research from the National Training Laboratories shows that this type of instruction is the least effective means for teaching any subject due to the lack of hands-on activity and participant engagement that typically enforces learning. The live, in-person lecture format, however, gives the instructor the ability to make eye contact with participants and engage them personally in the information being covered.<sup>1</sup> It is also easy to monitor attendance for continuing education credits. Consider ways to make classroom instruction more valuable. Distributing a pop quiz on critical energy code requirements before the training will help participants understand what they should learn. The quiz should be repeated as the classroom presentation is concluding so participants and the trainer can see what was learned and what was missed. Quizzes can be anonymous and simply serve as a way to assess whether the material covered was actually learned during the training. Another option is to require that participants take a test or quiz at the conclusion of the class in order to demonstrate what they've learned. In this case, the test would not be anonymous. In addition, allotting time for break-out groups and small group problem-solving will enable participants to learn from each other and increase their understanding of the curriculum material.

### Webinar

If participants are widely distributed and travel to a central classroom is anticipated to create a hardship or significantly decrease participation, the course may be delivered live via a webinar. Considerations in this case include access to the internet and phone lines for participants (some computers also allow the audio portion to be heard through the speakers, so a separate phone line is not required). The presentation is delivered live and participants can ask questions of the instructor(s). Usually it is difficult to have an open discussion in this format. Advantages of this type of remote training include the low-cost and time needed for delivery; however, the lack of interaction and shortened timeframe do limit the content that can be transferred. The approximate cost of hosting is webinar is \$150-200 per hour for 75 participants.

### Online/On demand

Another option for remote training is the establishment of an online training system that is available 24 hours per day. Material is available for viewing any time and the course can be self-paced, based on the needs of the participant. Systems can be set up so that either the participant pays a fee to access the course or the costs are covered by a sponsor (such as a state agency). A few organizations have established state-specific training videos on energy codes while the U.S. Department of Energy offers free webcasts and slides to support the standard requirements of the 2006 and 2009 IECC and ASHRAE Standards 90.1-2004 and 90.1-2007 at <http://www.energycodes.gov/becu>.

### Field Training

Research completed by Florida Atlantic University has demonstrated that field training, especially when it includes "hands-on" opportunities to examine buildings and determine whether they comply with energy codes requirements, is very effective.<sup>2</sup> Challenges with field training include group size (works more effectively with small groups) and finding a project site, in an appropriate phase of construction, which is available for use. A few communities have had success in providing "circuit rider" training which involves a trainer who travels from site to site across the state providing training on energy code requirements on-site to a builder at their project locations.

## TRAINING LENGTH

### Half Day

Energy code requirements are fairly detailed and complex, so a half day of training is generally insufficient unless the intended audience is extremely familiar with energy codes. A half day refresher course is also a good option for participants previously trained.

### Full Day

Most stakeholders agree that a full day of training (6 hours of training plus a lunch break) is necessary to provide basic information on energy code requirements.

## CURRICULUM & CONTENT

### Standard Code Content

The International Code Council (fee-based) and U.S. Department of Energy (free; see details above) provide curriculum and training to support un-amended energy codes (Note: When a state or community changes code requirements, they diverge from the material covered in standardized training packages and may require that new training materials be developed).

### Advocacy

Standard energy code training should be expanded to include explanations of why energy codes are important for improving the comfort and affordability of homes and buildings as an effective strategy for reducing the demand for energy. Training sessions provide another opportunity to conduct outreach to stakeholders on why adopting and complying with an up-to-date energy code is good for the residents of the state.

### Building Science

Effective energy code training should include aspects of building science as a way of explaining why code requirements were developed. It is important to address existing or anticipated compliance issues which may result from a lack of understanding, or concern with, new requirements.

### State-specific, Community-specific Needs

Due to unique circumstances from one community to the next, energy code training may need to be tailored to address specific issues. For example, builders in one location may want detailed information on code requirements for windows, the role of the National Fenestration Rating Council, and the code compliance issues when using unrated windows. In another state, builders may be building a lot of additions and sunrooms and want to hear detailed information on code compliance for that type of construction. A simple survey of stakeholders through building departments can yield information to tailor the curriculum and focus it on the most needed issues in the community.

## RESOURCES AND CREDITS

### Code Books

Everyone enforcing or complying with the energy code needs a copy of the relevant code book. ICC sells standard IECC code books, code books with “commentary” that provide additional detailed explanation of energy code requirements, and may also work with a state to produce tailored code books specific to a state’s energy code.

### Online Files/Compact Discs

Depending on resources available, states may make training materials (e.g., PowerPoint presentations, CDs of training files, etc.) available on their agency websites.

### CEUs & LUs

The ability to earn ICC continuing education units (CEUs) and AIA learning units (LUs) are a significant incentive for participants to take accredited training courses. Working with local home builders associations and with AIA Providers, most states can develop accredited training.

### Hotline and/or FAQs

States should consider establishing energy codes hotlines where callers can ask questions and receive clarification on code requirements. An online resource for “frequently asked questions” can also be developed, either as a stand-alone resource or in response to repeated hotline requests.

## ADDITIONAL

### Scheduling Training

Whenever possible, consider holding training during the construction “off season” for your area. This approach will improve attendance rates and reduce the likelihood that class size dwindles after lunch.

### Training Participants

It is highly recommended that energy code training courses include participants from all sectors of the construction industry: code officials, builders, architects, HVAC contractors, etc. so that the participants benefit from one another’s perspectives on the requirements and can learn together how code compliance is determined.

### External Sources

<sup>1</sup> [http://siteresources.worldbank.org/DEVMARKETPLACE/Resources/Handout\\_TheLearningPyramid.pdf](http://siteresources.worldbank.org/DEVMARKETPLACE/Resources/Handout_TheLearningPyramid.pdf)

<sup>2</sup> [http://courses.science.fau.edu/~rjordan/active\\_learning.htm](http://courses.science.fau.edu/~rjordan/active_learning.htm)