**BSESC—National Model Codes and Standards**

## Proficiency Level 2: Understand

### Learning Objective 2.1

* Explain the purpose of building codes and list at least five building professions who apply codes in their work.

### Lecture Notes 2.1

Building codes are sets of regulations governing the design, construction, alteration and maintenance of structures. Building codes specify how buildings *must* be constructed or perform, and are written in mandatory, enforceable language. Usually, states and local governments adopt and enforce building codes for their jurisdictions.

The purpose of building codes is to specify the minimum requirements to adequately safeguard the health, safety and welfare of building occupants. Building codes are applied by architects, builders, contractors, subcontractors, engineers, interior designers, electricians, plumbers, and other professions. In addition, realtors, manufacturers of building products, building scientists, insurance companies, facility managers, owners, and others need an understanding of building codes.

### Learning Objective 2.2

* Define a model code and list five examples of model codes.

### Lecture Notes 2.2

The International Code Council (ICC) publishes and maintains the International Residential Code (IRC), which applies to new and existing one- and two-family dwellings and townhouses of not more than three stories in height, and the International Building Code (IBC), which applies to new and existing buildings, except those residential buildings covered under the IRC.

The ICC publishes and maintains a variety of model codes, to which the IRC and IBC can be applied. These model codes make allowances for different climate zones and local issues that may impact buildings. The model codes are adopted by state and local governments that enforce the codes for their jurisdictions. This code enforcement is usually the responsibility of local government building officials who review design plans, inspect construction work and issue building and occupancy permits.

Examples of model codes published by the ICC include the International Energy Conservation Code (IECC), International Mechanical Code, International Plumbing Code, International Fire Code, International Electrical Code, International Fuel Gas Code, International Private Sewage Code, International Property Maintenance Code, and International Zoning Code.

## References

Bartlett, R., M.A. Halverson, and D.L. Shankle. 2003. *Understanding Building Energy Codes and Standards*. PNNL-14235. Prepared for the U.S. Department of Energy by Pacific Northwest National Laboratory, Richland, WA.

### Learning Objective 2.3

Identify key elements of the International Energy Conservation Code (IECC) related to building science

### Lecture Notes 2.3

The international Energy Conservation Code (IECC) addresses all of the energy efficiency aspects of a building, with separate sections for residential and commercial buildings. The key elements included in the IECC are: building insulation requirements, duct insulation and air sealing requirements, equipment sizing and efficiency ratings, lighting systems, and window performance criteria.