



Activity 3.3.4 Energy Codes

Introduction

In this activity you will investigate the requirements of the International Energy Conservation Code and revise your Keystone Library Renovation plans to comply with the code.

Equipment

-  Engineering notebook
-  Internet access
-  Pencil
-  Printer
-  3D architectural software file **Preliminary Keystone Library**
-  **Building Envelope Requirements for Climate Zone 5**

Procedure

1. Visit the Department of Energy *Building Energy Codes Program* website at <http://www.energycodes.gov>
2. Follow the link to DOE **Status of Energy Codes**.
3. Follow the link to What's Happening in Your State. Based on the map and key, what is the status of the energy codes in Indiana (where the Keystone Library building is located)? What is the energy code status in neighboring states? What is the energy code status in your state?
4. Note: Regardless of the energy code status, the City of Noblesville has decided to propose energy efficient design and construction and will therefore require that the Keystone Library be renovated to many requirements of the most recent ASHRAE 90.1-2007/2009 IECC code. The Building Envelope Requirements for Climate Zone 5 document reflects these requirements.
5. Based on the Energy Code requirements for the Keystone Library roof, revisit your roof design and sketch a detail of your roof proposal showing all layers and specifying the insulation. Obtain approval of your roof system from your teacher. Revise your roof design as needed in your 3D architectural model.
6. Based on the Energy Code requirements revisit your proposal for the new wall on the second floor. Sketch a detail of your new wall proposal (for the wall between the second floor and the green roof) and specify the insulation. Indicate the R-value on the sketch. Obtain instructor approval of your wall system. Create or revise this wall in your 3D architectural model.

