

## **Fundamentals of Home Inspection 40-Hour Online Course**

This course is designed to provide you with a comprehensive introduction to home inspection and offers everything you'll need to become a professional home inspector. It features detailed illustrations, clear explanations, and a quantity and quality of information unequaled anywhere.

As part of our line of prelicensing products, this course combines lessons that students can review at their own pace, up to five different types of interactive exercises, and exams that measure student understanding of the material.

### **Unit Introductions:**

#### ***Roofing/Flashing/Chimneys***

The primary purpose of a roof is to keep the building and its occupants protected from rain, snow, sun, wind, and all the combinations of these. Roofs may also add to or detract from the appearance of a building. Roofs provide some mechanical protection against falling objects, although anyone who has seen the damage done by a large tree falling on a house, knows their strength is limited. Contrary to what many think, roof coverings are not intended to keep out the cold. The majority of roofs are extremely poor insulators.

#### ***Exteriors***

The exterior components of a building work together to provide a weathertight skin, if all the parts are doing their job. Protection against intruders, both animal and human, is also offered by the building skin. Good exteriors are attractive, durable and require little maintenance. Exterior components are often the most neglected parts of a home.

#### ***Structure***

The structure of a home is the skeleton, which includes the foundations and footings as well as the floors, walls, and roof. Structures are judged by how well they are able to stand still. Successful structures do not move; less successful ones do, sometimes dramatically.

#### ***Electrical***

The electrical system is very important from both a safety and convenience standpoint. Generally speaking, electrical systems are expanded and upgraded over the life of a house, rather than taken out and replaced on a regular basis.

#### ***Heating***

The purpose of a heating system in the North American climate is obvious. How well a heating system performs is not so obvious. A well designed heating system is large enough to provide adequate heat on the coldest day, is reliable, is inexpensive to install and to operate (efficient), is quick to respond to its controls, is able to heat all parts of the home equally or differentially, as the occupants desire, and is safe.

There is no one heating system which performs all these functions to perfection. Every heating system is a compromise in one way or another, with low initial cost often being the predominant criteria for selection.

### ***Cooling/Heat Pumps***

There are many types of air conditioning systems; however, they all work on the same principle. They move heat from a relatively cool space to a relatively warm space. The systems all take advantage of some basic scientific laws of liquids and gases. When liquids evaporate into gases, they absorb a considerable amount of heat. When gases are condensed back into a liquid state, they give off heat. In addition, if the pressure of a gas is increased, the temperature will also increase. Most systems use the refrigerant "Freon", a substance which changes state at temperatures and pressures which are well suited to this application.

### ***Insulation***

With the exception of new super-insulated houses, virtually every house has room for improvement when it comes to insulation, ventilation, caulking and weatherstripping. These will improve comfort levels and conserve energy.

Perhaps the best motivation for retrofitting is to save money. It is important to weigh the costs of retrofitting against the potential savings in fuel costs. There are usually some areas of the house where it makes financial sense to upgrade. However, in many older houses, certain types of retrofitting, such as insulating solid masonry exterior walls, are not economically viable.

### ***Plumbing***

The purpose of a house plumbing system is twofold. On the supply side, the idea is to get water for drinking, washing and cooking to the appropriate areas of the house. The waste side of the plumbing system is intended to get rid of water and waste.

The supply water is under pressure and the waste water flows by gravity. Serviced communities provide the fresh supply water and carry away the waste. In rural properties, wells usually supply fresh water and septic systems handle the waste.

Since the beginning of the 20th century, plumbing systems have changed dramatically. There are now a myriad of fixtures and faucets available, and both supply and waste pipe materials have changed a great deal.

Plumbing components are expensive, and plumbing repairs or improvements are among the more costly projects homeowners undertake.

In a completed home, the majority of the piping, both supply and waste, is concealed within walls, ceilings and underground. Leakage, obstructions, or other problems may not be picked up during an inspection.

### ***Interior***

The building interior is looked at for a number of reasons. The interior provides clues to structural problems and is often the area where water leakage is first detectable. The interior finishes themselves usually reflect the overall building quality and their condition helps indicate the level of overall maintenance.

The house interior contains the distribution points of the major systems. For example, each room should have an adequate heat supply and sufficient electrical outlets. The concern of the home inspector is function rather than appearance, and emphasis is placed on whether the room will work as it was intended. The home inspector does not comment on matters of personal taste.

### ***Appliances***

Most major household appliances have life spans of 10 to 20 years. They can cost several hundred dollars to replace, but do not generally play a major part in the decision to buy a house. Appliances can be changed much more easily than the structure, roof, plumbing, heating or electrical systems.

This unit provides an overview of some common household appliances. A tremendous variety of appliances are available, and not all are considered in these pages. We recommend that owner's manuals be consulted for regular maintenance on all household appliances. If the manuals are not on hand, they are usually available from the manufacturer.

Household appliances may be built in, or portable (often referred to as freestanding). Generally speaking, installed appliances will remain with the house when it is sold, but freestanding appliances are often removed. The purchase agreement normally stipulates which appliances stay with the house.