Important Dates:

Lecture (Roof and Elevations) Power Point
Chapter 15 Questions 2,3,5,6,7,8,13,14
Sketch the overhead roof plan of the house you currently live in
Sketch the front elevation of the house you currently live in
Vocabulary
Roof Plan Detail (A-Size sheet)
Elevations (all 4)
Review

Table of Contents:

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Vocabulary

Flat roof Rafter Collar ties Topography
Shed roof Roof truss Ceiling joist Cornice
Gable roof Ridge Knee wall Roof Ridge
Hip roof Valley Soffit Projection
Gambrel roof Hip Lookout Skylight
Mansard roof Gable end wall Fascia Siding
Dutch hip roof Cornice/Eave Elevation Rail
Roof plan Flashing Grade line
Roof pitch/slope Ridge board Stucco

Roof Plans and Elevations
Instructions

➤ Know the terms located in the Architecture II curriculum guide on pages 58-59 and 90-91

➤ **Read, study and know the following:**
  - pages 57-63 and 90-95 of the Architecture II curriculum guide
  - information contained in this handout
  - textbook chapters 15, 16, 17 and 18 (pages 382-467)
  - MiTiReLa section 5 and 7

➤ Replicate pages 20 and 463 with changes to reflect your specific application. Include proper annotations.

***Stagger views and set scale to minimize empty space on sheet. ***

The roof plans and elevation plans should be drawn concurrently (be careful about proper layer usage) so that each design element is correct in all views.

**For the roof plan:**

1. Make the “Roof Plan” the active layer and give yourself plenty of model space.
2. Draw a hidden line along the outer edge of the brick veneer.
3. Offset this hidden line to the outside the equivalent of the overhang you have chosen in your section view. (16”-24”)
4. Draw ridges and valleys to create the top view of completed house.

**For the elevations:**

1. Turn on the “Floor Plan” layer and using proper construction lines, create a detailed and accurate image for the front view of the house. Do not forget the window and door casings, fascia, frieze board and proper cornice returns (box end) if required.
Roof Plan/Elevation Drawings Checklist

- Roof style and pitch selected and defined
- All ridges and valleys make sense and agree
- Overhead view of finished roof must be complete
- All corners trimmed properly
- Proper window and door sizes and types agree with schedules
- Proper miter line use

- **The rear view must be drawn upside down.** Make a copy and when finished, rotate the copy only.
- Elevations sheet must have 4 viewports on the viewport layer. (One for each view)
- Identify each view with name and scale.
- Finished floor and ceiling levels
- Porch and deck steps and rails
- Replicate page 463
- Title block information
Types of Roofs

The overall appearance of a home is greatly affected by the roof lines and materials used for roof construction, Figure 19-1. The designer has many standard styles from which to choose. One of these styles should complement the basic design of the home being constructed. Figure 19-2 shows several roof types used in residential construction. These types are discussed in the following sections.

Gable Roof

The gable roof is a very popular type of roof. It is easy to build, sheds water well, provides for ventilation, and can be applied to a variety of house shapes and designs. The gable roof is a triangular roof with a gable at each end.

Winged Gable

The winged gable roof is essentially a gable roof extended at the peak. Lookout rafters are necessary to provide support for the increased overhang. This style of roof provides an attractive design feature on the roof.

Hip Roof

The hip roof is slightly more difficult to build than a gable roof, but is still a popular choice. It does not provide for ventilation as well as some other designs and increases the chance for leakage due to the hips and valleys. A hip roof does not have gables at the ends, rather a sloped roof section (hip).

Dutch Hip

The Dutch hip roof is basically a hip roof with a small gable at each end. These gables can provide ventilation if vents are installed. However, the gables also increase the chance of leakage.

Flat Roof

A flat roof is the most economical roof to construct, but does not add much to the design of most houses. It requires a “built-up” or membrane roof covering rather than conventional shingles. A built-up roof consists of layers of roofing felt and tar or some other material, such as rubber topped with gravel. Actually, most so-called flat roofs are pitched at about 1/8” to 1/2” per foot to aid in drainage. The flat roof is popular in warmer areas of the country where wide overhangs are desirable for shade and where little or no snow falls.

Shed Roof

A shed roof is similar to a flat roof, but has more pitch. It is frequently used for additions to existing structures or in combination with other roof styles. A built-up roof is generally required unless the roof has a pitch of over 3:12, or three feet of rise for each 12 feet of run.

Mansard Roof

The popularity of the mansard roof varies. For several years, it was used infrequently. Then, it became popular for several years. Now, its popularity is again fading. It is a French design and more difficult to construct than the hip or gable roof. However, a mansard roof does have interesting lines.

Gambrel Roof

The gambrel roof is sometimes called a barn roof because it has been used extensively on barns. This type of roof provides additional headroom in the attic or second story.

Butterfly Roof

The butterfly roof is not widely used. From the 1950s through the early 1970s, some
contemporary homes were built with this type of roof. However, this type of roof is now rare in new construction. A butterfly roof has the advantage of providing plenty of light and ventilation. However, drainage is a problem. Flashing should extend far up each slope along the valley to prevent leaking.

A-Frame Roof

The A-frame roof provides not only a roof, but the walls of the structure. Originally, it was used for cottages. However, it has also been applied to homes, churches, and other structures.

Folded Plate Roof

The folded plate roof has limited use in single-family houses. However, it is quite popular for small condominiums, motels, and small commercial buildings. Modular, prefabricated roof units are available. As the cost of the modular units decreases, the popularity of this design may increase.
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