Unit 06: Putting it Together - Creating Entire Floor Plans

Content Area: **Technology**
Course(s): **Architecture**
Time Period: **February**
Length: **12 blocks**
Status: **Published**

Enduring Understandings

1. House design is driven by client needs and specifications, building codes, structural considerations, efficiency, and environmental factors.

2. Bedrooms are often grouped together to create a “quiet” area of the house.

3. Roughly one third of its total square footage should be dedicated to the sleeping, living, and service areas of a house.

4. The design of the roof should be considered when laying out the floor plan.

Essential Questions

1. How are plumbing, electrical, and structural materials incorporated into a working set of drawings?

2. How can closets be used to create soundproofing?

3. Where should the kitchen be located in a house?

4. What is efficient floor plan design?

5. What are important aspects to consider when designing multi-story houses?

6. What questions do architects ask clients before they design a floor plan?

Content

Vocabulary:

maximum joist span, bubble plan, client, square footage, design process, footprint, symetry, balance

Skills

1. Create a “bubble plan” for the various rooms of a house.

2. Create brainstorming sketches of individual room floor plans, elevations and roof plans.

3. Apply the design process in the creation of a floor plan for a two-story house that fulfills client needs.

4. Analyze a designed floor plan to ensure client needs are met, efficient use of space and ease of construction.

5. Apply design changes to rough draft of floor plan.

Resources

11x17 Paper / Drawing Boards / T Square / Pencil / Erasers / Rendering Markers

Standards

NJ: Grade 9 - 12

9.3 CTE: B. Architecture & Construction Career Cluster

Academic Foundations:

9.3.12.AC-DES.5 Identify the diversity of needs, values and social patterns in project design, including accessibility standards.

Communication Skills:

9.3.12.AC-DES.6 Apply the techniques and skills of modern drafting, design, engineering and construction to projects.

9.3.12.AC-DES.7 Employ appropriate representational media to communicate concepts and project design.

9.3.12.AC-DES.1 Justify design solutions through the use of research documentation and analysis of data.

Problem-Solving and Critical Thinking:

9.3.12.AC-DES.8 Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.

9.3.12.AC.4 Evaluate the nature and scope of the Architecture & Construction Career Cluster and the role of architecture and construction in society and the economy.

9.3.12.AC.6 Read, interpret and use technical drawings, documents and specifications to plan a project.

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