DRAFTING/ARCHITECTURE
Grade(s) 10-12

Unit 1
Styles of Architecture

Essential Question
How have architectural styles evolved over time, and how do they influence modern design?

Unit Summary
This unit explores the historical development of architectural styles, their defining features, and their impact on contemporary structures.

Guiding Questions
Content

- What are the major architectural styles?
- How do cultural and technological advancements influence architectural design?
- How do architectural styles vary by region?

Process

- How can historical architectural styles be identified?
- What resources can be used to research architectural history?
- How can traditional styles be adapted to modern contexts?

Reflective

- How does understanding architectural history impact design choices?
- Which architectural style resonates with me the most?
- How can historical architecture inform future design trends?

Priority Standards

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- 1.8 - Dimension and draw wall section with all components identified.
- 1.9 - Develop Plot Plan with house, out buildings, trees, utility supply lines and communications supply lines identified.
- 1.10 - Demonstrate the ability to 3D model a structure using different mediums in design.
- 1.11 - Draw a roof framing plan for a single-family dwelling.

Supporting Standards

- 1.1 - Act as a responsible and contributing citizen and employee.
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- 1.4 - Communicate clearly, effectively and with reason.
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Unit 2
Site and Plot Planning

Essential Question
How does site and plot planning impact the functionality and sustainability of a structure?

Unit Summary
This unit introduces students to site selection, environmental considerations, zoning regulations, and land use planning.

Guiding Questions
Content
- What are the key factors in site selection?
- How do zoning laws affect plot planning?
- How does topography influence site planning?

Process
- How are site plans developed?
- What tools and techniques are used for site analysis?
- How do professionals integrate sustainability into site planning?

Reflective
- Why is site planning crucial to successful architecture?
- How do my local zoning laws influence design?
- How can I incorporate sustainability into my designs?

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Unit 3
Residential Floor Plans & Space Planning

Essential Question
What are the key components of an effective and functional residential floor plan?

Unit Summary
This unit covers the principles of space planning, room layouts, and traffic flow within a residential structure.

Guiding Questions
Content
- What are the essential rooms in a home?
- How do dimensions and proportions impact usability?
- How do cultural and lifestyle factors affect floor plans?

Process
- How is a floor plan developed?
- What software and tools aid in floor plan creation?
- How do designers ensure accessibility and efficiency?

Reflective
- How does a well-designed floor plan enhance daily living?
- What are my personal design preferences?
- How do floor plans vary globally?

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Unit 4
Foundation Plan

Essential Question
Why is a strong foundation essential to any structure?

Unit Summary
This unit covers foundation types, structural integrity, and factors affecting foundation design.

Guiding Questions
Content
- What are the different types of foundations?
- How do soil and climate impact foundation design?
- What materials are commonly used in foundations?

Process
- How is a foundation plan developed?
- What considerations go into designing a strong foundation?
- What role do engineers play in foundation planning?

Reflective
- Why is foundation planning critical to a building's longevity?
- How do different foundation types impact a building's sustainability?
- How does foundation design vary across different terrains?

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Unit 5
Elevations & Sections

Essential Question
How do elevations and sections contribute to a complete architectural drawing set?

Unit Summary
This unit focuses on creating exterior elevations and sectional views that provide detailed structural insights.

Guiding Questions
Content
- What information is conveyed through elevations?
- What is the purpose of sectional drawings?
- How do materials affect elevation design?

Process
- How are elevations and sections drawn?
- What techniques ensure accuracy in these drawings?
- How are these drawings used in construction?

Reflective
- How do elevations enhance architectural visualization?
- Why are sectional drawings important in construction?
- How can I improve my elevation drawing skills?

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Unit 6
Doors and Window Schedules

Essential Question
Why are door and window schedules crucial in architectural planning?

Unit Summary
Examines placement, sizing, and scheduling of doors and windows.

Guiding Questions
Content
- What factors influence door and window selection?
- How do codes affect placement?
- What is included in a schedule?

Process
- How are schedules created?
- What software assists in their development?
- How do schedules aid construction?

Reflective
- How do window and door choices affect aesthetics and functionality?
- What considerations must be made for accessibility?
- How do materials impact design choices?

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Unit 7
Electrical and Plumbing

Essential Question
How do electrical and plumbing systems contribute to building functionality?

Unit Summary
Covers the basics of electrical and plumbing systems, including schematic planning.

Guiding Questions
Content
- What are the components of residential electrical and plumbing systems?
- How do codes regulate these systems?
- What symbols are used in schematic drawings?

Process
- How are electrical and plumbing plans drafted?
- What tools aid in system layout?
- How do designers coordinate these systems with architectural plans?

Reflective
- How does proper planning impact system efficiency?
- What sustainability considerations exist?
- How do electrical and plumbing choices impact cost?

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Unit 8
Roofs

Essential Question
What role does roof design play in architectural integrity?

Unit Summary
Focuses on roof types, framing, and design principles.

Guiding Questions
Content
- What are the different roof types and their applications?
- How do climate and materials impact roof design?
- What are the structural considerations for roofs?

Process
- How are roof plans created?
- What tools and methods are used?
- How does roof design integrate with the overall structure?

Reflective
- How do roof choices affect aesthetics and function?
- What are the challenges of complex roof designs?
- How do modern technologies influence roofing?

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Unit 9
Rendering & Visualization

Essential Question
How does rendering enhance architectural presentations?

Unit Summary
Introduces 3D modeling and visualization techniques.

Guiding Questions
Content

- What are the benefits of rendering in design communication?
- How do different software tools assist in visualization?
- What elements make a rendering realistic?

Process

- How are 3D models created?
- What techniques improve rendering quality?
- How does lighting and material selection impact visualization?

Reflective

- How does rendering impact client presentations?
- What challenges arise in creating lifelike visualizations?
- How can 3D visualization be used for problem-solving?

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Unit 10
Structural & Construction Drawings

Essential Question
How do structural drawings contribute to safe construction?

Unit Summary
Covers structural drawings, material specifications, and load calculations.

Guiding Questions
Content
- What are the key components of structural drawings?
- How do materials influence structural design?
- What role do load calculations play?

Process
- How are structural plans created?
- What software assists in drafting?
- How do engineers and architects collaborate on structural integrity?

Reflective
- Why are structural drawings essential in construction?
- How does material selection impact sustainability?
- What challenges arise in structural detailing?

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Unit 11
Capstone Architectural Project

Essential Question
How can all drafting and design concepts be applied to a comprehensive project?

Unit Summary
Students complete a full architectural project incorporating all previous units.

Guiding Questions
Content
- What are the essential elements of a comprehensive design project?
- How do different disciplines integrate in architectural design?
- What documentation is required for a complete set of drawings?

Process
- How is a capstone project planned and executed?
- What tools and techniques are used for final presentation?
- How do students collaborate to complete their projects?

Reflective
- How does this project reflect your learning journey?
- What challenges did you overcome?
- How will these skills be applied in future endeavors?

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