



# Architecture & Engineering

## Drafting II: Architecture



ORGANIZING THEME/TOPIC	FOCUS STANDARDS & SKILLS
<p><b>THEME/TOPIC: Styles of Architecture</b></p> <ul style="list-style-type: none"> <li>• Basic house designs.</li> <li>• Advantages and disadvantages of various house designs.</li> <li>• Traffic circulation in a floor plan.</li> </ul> <p>Time Frame: 3 Weeks</p>	<p><b>KS 21103.2</b> Identify historical styles of architecture and types of structural designs.</p> <ul style="list-style-type: none"> <li>• Identify four basic house designs.</li> <li>• Explain the chief advantages and disadvantages of house designs as they apply to home construction.</li> <li>• Develop an efficient traffic pattern in a house design.</li> </ul>
<p><b>THEME/TOPIC: Site and Plot Planning</b></p> <ul style="list-style-type: none"> <li>• Site considerations, restrictions, zoning, and codes</li> <li>• Topography symbols</li> <li>• Land elevations</li> </ul> <p>Time Frame: 4 Weeks</p>	<p><b>KS 21103.9</b> Develop Plot Plan with house, out buildings, trees, utility supply lines and communications supply lines identified.</p> <ul style="list-style-type: none"> <li>• Describe site considerations, restrictions, zoning, and codes and how they impact placement of structures on the site.</li> <li>• Identify the various features shown on a typical plot plan.</li> <li>• Recognize typical topographical symbols and apply them to site considerations.</li> <li>• Draw a plot plan using correct symbols and conventions.</li> <li>• Interpret land elevations from contour lines.</li> </ul>
<p><b>THEME/TOPIC: Floor Plan</b></p> <ul style="list-style-type: none"> <li>• Floor plan specifications.</li> <li>• Construction materials and the architectural symbols</li> </ul> <p>Time Frame: 4 Weeks</p>	<p><b>KS 21103.4</b> Design and draw a residential floor plan using accepted symbols and techniques and properly identify walls, doors, windows, and stairs.</p> <ul style="list-style-type: none"> <li>• Dimension a floor plan in a clear and precise manner.</li> <li>• Interpret architectural symbols that represent construction materials.</li> </ul>
<p><b>THEME/TOPIC: Foundation Plan</b></p> <ul style="list-style-type: none"> <li>• Residential foundations</li> <li>• Footings</li> </ul> <p>Time Frame: 5 Weeks</p>	<p><b>KS 21103.6</b> Draw a foundation plan for a single family dwelling.</p> <ul style="list-style-type: none"> <li>• Analyze a typical floor plan to determine the appropriate foundation.</li> <li>• Draw and dimension a foundation plan.</li> <li>• Identify all parts of a foundation plan.</li> <li>• Discuss the foundation design considerations for wood, concrete, and masonry walls.</li> </ul>
<p><b>THEME/TOPIC: Wall Section</b></p> <ul style="list-style-type: none"> <li>• Types of building wall sections</li> <li>• Regulations, guidelines and pre-design</li> <li>• Manual and CAD techniques.</li> </ul> <p>Time Frame: 2 Weeks</p>	<p><b>KS 21103.8</b> Dimension and draw a wall section with all components identified.</p> <ul style="list-style-type: none"> <li>• Describe the three main types of building wall sections.</li> <li>• List information that must be obtained before a section can be drawn.</li> <li>• Utilize industry standard terms associated with a wall section.</li> </ul>

<p><b>THEME/TOPIC: Doors and Window Schedules</b></p> <ul style="list-style-type: none"> <li>Residential doors</li> <li>Residential windows</li> </ul> <p>Time Frame: 2 Weeks</p>	<p><b>KS 21103.4</b> Use accepted symbols and techniques and properly identify doors and windows.</p> <ul style="list-style-type: none"> <li>Compare the types of doors used in a residential dwelling.</li> <li>Draw proper door and window symbols on a typical floor plan in CAD or Manual.</li> <li>Prepare window and door schedules in CAD or Manual drafting.</li> <li>Label and identify different types of doors and windows.</li> </ul>
<p><b>THEME/TOPIC: Electrical and Plumbing</b></p> <ul style="list-style-type: none"> <li>Residential water supply system.</li> <li>Residential water and waste removal system.</li> <li>Delivery and distribution of electricity through residential structures.</li> <li>Branch circuits used in a residential structure</li> </ul> <p>Time Frame: 2 Weeks</p>	<p><b>KS 21103.5</b> Draw plumbing and electrical layers.</p> <ul style="list-style-type: none"> <li>Draw a residential plumbing plan using manual drafting techniques and identify required elements of water supply and waste removal system.</li> <li>Draw a residential plumbing plan using CAD techniques.</li> <li>Describe how electricity is delivered to and distributed through residential structures.</li> <li>Identify the three types of branch circuits used in a residential structure.</li> <li>Draw an electrical plan for a residential structure using manual drafting and CAD techniques.</li> </ul>
<p><b>THEME/TOPIC: Roofs</b></p> <ul style="list-style-type: none"> <li>Roof plan</li> <li>Construction of a typical frame roof.</li> </ul> <p>Time Frame: 3 Weeks</p>	<p><b>KS 21103.11</b> Draw a roof framing plan for a single family dwelling.</p> <ul style="list-style-type: none"> <li>Draw a roof that has a typical roof slope (pitch) with CAD or Manual drafting.</li> <li>Explain the purpose of a roof plan.</li> <li>Identify and sketch 12 different types of basic roof designs.</li> </ul>
<p><b>THEME/TOPIC: Elevations</b></p> <ul style="list-style-type: none"> <li>Degree of realism in an elevation plan.</li> <li>Presentation drawing.</li> </ul> <p>Time Frame: 3 Weeks</p>	<p><b>KS 21103.7</b> Draw elevations and pictorial presentations e.g. exterior, interior, etc.</p> <ul style="list-style-type: none"> <li>List methods commonly used to increase the degree of realism in an elevation plan.</li> <li>Explain the purpose of a presentation drawing.</li> <li>Create elevations using CAD or Manual Drafting techniques.</li> </ul>
<p><b>THEME/TOPIC: Culminating Project</b></p> <ul style="list-style-type: none"> <li>Functional and suitable</li> <li>Comprehensive plan</li> <li>Architectural models</li> </ul> <p>Time Frame: 9 Weeks</p>	<p>Integration of architectural concepts and skills</p> <ul style="list-style-type: none"> <li>KS 21103.2 Design a functional structure suitable for a particular site.</li> <li>KS 21103.7 Draw elevations and pictorial presentations e.g. exterior, interior, etc.</li> <li>KS 21103.3 Calculate/estimate building costs for a particular structure and develop brief specifications for the project.</li> <li>KS 21103.15 Create an exterior two-point perspective view.</li> <li>KS 21103.12 Draw interior elevations with fixtures, built-ins, trims, utilities and openings.</li> <li>KS 21103.13 Construct an interior finish schedule.</li> <li>KS 21103.14 Draw an interior one-point perspective drawing.</li> <li>KS 21103.10 Create a physical or virtual 3D model using appropriate tools and mediums.</li> </ul> <p>Career and college readiness</p> <ul style="list-style-type: none"> <li>Present project using digital media.</li> <li>Demonstrate time and project management.</li> </ul>