



Architecture & Engineering | Drafting I: CAD



ORGANIZING THEME/TOPIC	FOCUS STANDARDS & SKILLS
<p>Drafting Foundations:</p> <ul style="list-style-type: none"> • Graphic Communication • Drafting Equipment • Geometry for Technical Drawing • CAD • Integrated Skills <p>Time Frame: 10 Weeks</p>	<p>KS 21107.13 Construct drawings using straight line, circle, and hidden line statements, etc.</p> <ul style="list-style-type: none"> • Demonstrate basic architectural sketches and lettering. • Measure accurately. • Identify function and use of manual drafting tools. • Identify and create common geometric shapes. • Apply geometric construction as a problem solving tool in technical drawing. • Introduction to CAD interface and commonly used drawing commands. • Demonstrate knowledge of social and ethical issues in computing. • Define qualities of leadership. • Recognize connection of graphic communication to other areas.
<p>Orthographic Drafting:</p> <ul style="list-style-type: none"> • Multi-view Projections • Dimensioning techniques <p>Time Frame: 8 Weeks</p>	<p>KS 21107.2 Demonstrate the ability to dimension drawings on the CAD system.</p> <ul style="list-style-type: none"> • Visualize the "Glass Box" concept and apply it to the process of selecting and locating views on a drawing. • Develop a multi-view drawing, following a prescribed process, from the initial idea to a finished drawing. • Apply measurements, notes, and symbols to orthographic views on a technical drawing.
<p>Pictorials:</p> <ul style="list-style-type: none"> • Isometric • Oblique • Perspective <p>Time Frame: 6 Weeks</p>	<p>KS 21107.06 Demonstrate the ability to create drawings in 3D. KS 21107.14 Construct isometric and 3D drawings.</p> <ul style="list-style-type: none"> • Layout and execute an Isometric drawing. • Describe and define the various types of oblique pictorial styles. • Select and draw the most practical type of oblique for a specific purpose. • Describe and define the various types of perspective drawings. • Select and draw the most practical type of perspectives for a specific purpose.

<p>Special Views:</p> <ul style="list-style-type: none"> • Sections • Auxiliary • Developments <p>Time Frame: 5 Weeks</p>	<p>KS 21107.16 Define and use commands to modify a drawing.</p> <ul style="list-style-type: none"> • Describe and define the purpose of sectional views. • Select and draw the appropriate type of sectional views. • Describe and define the purpose of auxiliary views. • Select and draw the appropriate auxiliary view. • Describe and define the purpose of a development. • Select and draw an appropriate development.
<p>Specialties:</p> <ul style="list-style-type: none"> • Gears • Fasteners • CAD applications in Architecture • Careers in Architecture and Construction <p>Time Frame: 5 Weeks</p>	<p>KS 21107.17 Identify and demonstrate the use of CAD symbols, commands and system peripherals.</p> <ul style="list-style-type: none"> • Define and draw a common cam or gear. • Draw, identify and describe various types of fasteners. • Draw simplified, schematic and detailed threads. • Draw a basic floor plan. • Add dimension and appropriate notes, symbols to a floor plan. • Demonstrate proficiency in setting limits and scale on the CAD system (KS). • Demonstrate proficiency in setting, turning on and turning off layers (KS). • Place text on a drawing and change styles, size and angles (KS). • Set grid and snap specifications (KS). <p>Career and College Readiness</p> <ul style="list-style-type: none"> • Investigate use of drafting and CAD in Architectural and Construction careers. • Communicate ideas effectively orally and in writing • Accurately apply mathematical reasoning and calculations.