

**Hillsborough Township School District**

**Hillsborough High School**

**Applied Technology Curriculum**

**Architectural Drawing 1**

**August, 2012**

## ELEMENTS OF CURRICULUM

Course Overview  
Curriculum Outlined  
Standards for Technological Literacy

## Course Overview

In Architectural Drawing 1, fundamentals of architecture and the communication of structural design are examined and developed. Residential design and construction are studied through a systems approach. Projects include the production of detailed working drawings for design ideas and in some cases, scale models will be produced. Students will use traditional drawing tools, as well as computer aided drafting (CAD) to complete projects. Students in Architectural Drafting 1 should be proficient in basic mathematics, and Mechanical Drawing 1 is a prerequisite for this full-year course.

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Architectural History and Styles</b> Standard Elective: <b>Unit 1</b>	2 to 4 days	What is meant by the term "architectural styles?"  Describe post and lintel construction. Compare it to the development of the arch.  Which European countries and styles had the greatest impact on Early American architecture? List three characteristics of each architectural style.  Considering the styles in this unit, what style of home do you prefer for your own home?  Describe a contemporary structure-imagines or real. Tell why you consider it to be a contemporary style.	Architecture is dynamic. As societies change and develop, so does architecture.  The development of one architecture solution and a resulting style in one culture often causes changes in the architecture of another culture.	Architectural history and styles  Development of architectural forms  Development of architectural styles  Influence on early American architecture  Early and later American styles  Function of architecture	Recap Basic Drawing Skills  Introduction to CAD  Sketch patterns and multi-view drawings  Apply Design Process to initiate digitized layout	Teacher observation of student  Student completing teacher assigned evaluation with rubric  Successful Completion of safety test and assignments  Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, and building service systems in the design of buildings and structures.  9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design.  9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process.  9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
	36 weeks							

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Unit 2</b>	2 to 4 days	Describe a building in your neighborhood or in a magazine in terms of design. Tell what elements and principles of design are its most outstanding features.  List each element of design and describe your preference for applying each to a residence of your own design.	Architects apply the basic principles of design to create structures that are pleasing in appearance as well as functional.	Relate design concepts to architecture  Identify six elements of design  Apply design principles to a work of architecture	Discuss principles of design and elements of design  Student Discussion: Individual and Group (with or without Teacher)  Magazine ads that apply these principles.  Brief write up on Stanley Womack	Teacher observation of student  Student completing teacher assigned evaluation with rubric  Successful Completion of safety test and assignments  Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design.  9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process.  9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.  WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
	36 weeks							
<b>Fundamentals of Design</b>								

Benchmarks for standards for technological literacy: 8, 9 10, 11, 17

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Full Year Elective</b> <b>Unit 3</b>	5 to 15 days	What are time saving tools and devices?	Drafting tools help drafters and designers produce architectural drawings that are accurate and readable.	Measure and prepare drawings with different scales	Assign each student an architect's scale for reading and measuring	Teacher observation of student	9.4.12.B.(1).3	RH 9-12.9.
	36 weeks	How are inches converted to millimeters? Why are T-squares used? Using a T square and triangle, parallel slide and triangle, or drafting machine, draw the walls in the classroom using a scale of 1/4 " = 1' - 0".		Draw with drafting instruments Select and use appropriate types of paper and other drafting supplies Apply timesaving devices	Prepare drawings using drafting tools and instruments Scale drawings are needed to show the size and shape of large objects. Guides for straight lines Instruments for curved lines Drafting and lettering tools Papers and drawing surfaces	Student completing teacher assigned evaluation with rubric Successful completion of projects and assignments with terminology and content Teacher questioning of student	Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact with others.
<b>Drafting Scales and Instruments</b>								

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Full Year Elective</b> <b>Unit 4</b>	36 weeks							
	Embedded, discussed, introduced, integrated, and reviewed throughout all units during the semester.	Describe six types of architectural drawings in terms of the type of information that is communicated in each type. List the ones you would use for your own set of drawings.  How are drawings used during the planning and construction of a building?  Using a Cad system, draw a reference symbol and a callout.	Drafters and designers must not only know and apply line conventions, but also develop good lettering skills and drawing techniques to make plans readable and understandable.	Differentiate between the types and purposes of architectural drawings  Produce the line conventions used on architectural drawings  Develop good lettering techniques  Sketch lines, patterns, and a floor plan	Define the following terms: -coding system -construction documents -detail drawings -elevations -general purpose drawings -line convention -models -plans -renderings -sections -title block -working drawings  Illustrate types of drawings  Sketch architectural line conventions	Teacher observation of student  Student completing teacher assigned evaluation with rubric  Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.  WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
<b>Architectural Drafting Conventions</b>								

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<b>Standard Level:</b> <b>Full Year Elective</b> <b>Unit 5</b> <b>Introduction to Computer-Aided Drafting and Design</b>	2 to 4 days	Why are sketches necessary?	A CAD system combines computer software and hardware to create drawings and store them electronically.	Use a computer to prepare architectural drawings	Class discussion on the advantages and limitations of CAD	Teacher observation of student	9.4.12.B.(1).3	RH 9-12.9.
	36 weeks	What does CAD stand for? What are a few limitations using CAD? List several CAD software programs used in the industry.		Describe the different kinds of hardware and their functions Evaluate CAD software programs	Types of CAD drawings Introduce the Universal Coordinate System (UCS)	Student completing teacher assigned evaluation with rubric Successful completion of projects and assignments with terminology and content Teacher questioning of student	Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.



Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Environmental Design Factors</b> Unit 6	Standard Level: Full Year Elective 5 to 10 days 36 weeks Embedded, discussed, introduced, integrated, and reviewed throughout all units during the semester.	Why is a buildings orientation in relationship to its environment important? What is the difference between active and passive solar systems? Should building appear as appendages or functional parts of a land? Why? Explain why certain sides of a house receive the most light and heat. Compare winter and summer changes.	A wide range of factors must be considered to develop a fully functional architectural design – from a building’s geographical area to the dimensions of an average adult.	Orient a house on a lot to take best advantage of solar energy and features of the lot. Design structures ergonomically Prevent pollution (ecology)	Discuss energy orientation and sources. Design the orientation of a building considering its relationship to the sun. Sketch floor plans to show rooms and outdoor area locations Ergonomic planning	Teacher observation of student Student completing teacher assigned evaluation with rubric Successful completion of projects and assignments with terminology and content Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Indoor Living Areas</b> Standard Level: Full Year Elective Unit 7	5 - 10 days	List the functions you want in a living room for yourself and an imaginary client  How do open and closed plans differentiate?  What are special purpose rooms?	The living area is where the family entertains, relaxes, dines, listens to music, watches television, enjoys hobbies, and participates in other recreational activities.	Identify the functions of indoor living area rooms  To design the location, deco, size, and shape of indoor living areas  Determine how a room's orientation, walls, floors, windows, ceilings, lighting, and furniture can contribute to room function and appearance  Design indoor living areas and work them into a convenient floor plan	Draw a simple sketch of an open-plan living room for given functions. Indicate the location of doors, windows, a fireplace, foyer, entrance, and dining room and label accordingly  Sketch a closed-plan living room for the same functions. Show relationship of adjacent rooms.  Sketch the dining area of your own home. Create another sketch changing the design without changing any outside walls.	Teacher observation of student  Student completing teacher assigned evaluation with rubric  Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.  WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
	36 weeks Embedded, discussed, introduced, integrated, and reviewed throughout all units during the semester.							

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Outdoor Living Areas</b> <b>Unit 8</b>	2 - 4 days	Explain the purposes of a lanai and describe two different plans where lanais would function well.	When planning an outdoor living area, consider the area's function, location, décor, size, and shape.  A well-designed area will look and function like a natural extension of the house.	Design and sketch a porch, patio, and lanai  Design and sketch a swimming pool  Calculate the area and volume of swimming pools	Define the following terms: -balcony -deck -marquee -patio -porch -stoop -swim-out -veranda  From catalogs, newspapers, and magazines, cut out pictures of porch furniture that a client would prefer  Using a CAD system, draw an outline of your porch	Teacher observation of student  Student completing teacher assigned evaluation with rubric  Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.  WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
	36 weeks Embedded, discussed, introduced, integrated, and reviewed throughout all units during the semester.  Used as needed per assignment							

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Full Year Elective</b> <b>Unit 9</b>	1 week	Sketch the floor plan of a home of your design. Plan the most efficient traffic pattern by tracing the route of your daily routine.	The traffic areas of any building provide passage from one room or area to another and within a room or area.	Determine the effectiveness of a traffic pattern in a house Plan hallways that function efficiently	Define the following terms: -apron -dividers -foyer -landings -riser -stairs -traffic areas -tread -nosing	Teacher observation of student Student completing teacher assigned evaluation with rubric	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
	Utilizes elements and content from previously outlined units.	Using a CAD system, draw the plan view of one of the stair systems shown in this unit. Name the types of stairs that turn 90°, 180°, 360°, and 0°. Redesign an entrance shown in this unit. Add space that will be consistent with the main lines if the house. List the types of entrances and tell the function of each type.		Identify guidelines for designing stairs Calculate the correct space needed for stairways and stairwells Identify the kinds and functions of entrances and guidelines for entrance designs Design a foyer and entry	Sketch a floor plan showing guidelines for the traffic pattern throughout the building Calculate tread and risers for stringer to stair design Sketch foyer and entry way of house	Successful completion of projects and assignments with terminology and content Teacher questioning of student	9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

**Traffic Areas and Patterns**

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
Unit 10 Kitchen	1 week	What is the work triangle?	To design an efficient kitchen, the designer must consider the room's function, location, décor, size, and shape just as with other rooms.	Apply guidelines to efficient kitchen design	Define the following terms: -corridor kitchen -family kitchen -island kitchen -L-shaped kitchen -one-wall kitchen -peninsula kitchen -U-shaped kitchen -work triangle	Teacher observation of student  Student completing teacher assigned evaluation with rubric	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
		List the standard dimensions for wall and base cabinets.  How should the refrigerator door open in the kitchen?	Determine the best shape, size, and location for the kitchen  Plan and draw a work triangle for a kitchen  Design an aesthetically consistent décor for a kitchen  Sketch small and large kitchens of the basic kitchen shapes	List the six types of kitchen shapes and give at least one advantage and disadvantage of each.  Sketch a floor plan of the kitchen in your own home. Prepare a revised sketch to show how you would propose to redesign this kitchen. Try to make the work triangle more efficient.	Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.		

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Full Year Elective</b>  <b>Unit 11</b>	1 weeks	Using a CAD system, design a utility room and garage for the house you are planning.	General service areas include utility rooms, garages, and carports, and workshops, and storage areas.	Determine what kinds of equipment are included in a utility room	Define the following terms: -carport -detached garage -drop-leaf workbench -integral garage -utility room -ventilated shelving -wall closet	Teacher observation of student  Student completing teacher assigned evaluation with rubric	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
	Utilizes elements and content from previously outlined units.	What is the purpose of a utility room?	Service areas include facilities for the maintenance and servicing of the other areas of the home.	Sketch a garage and a car port  Design storage facilities for a garage  Calculate the areas needed for garages and driveways  Design and sketch an efficient and safe workshop area  Design and sketch storage facilities	Design a utility room including a complete laundry facility within an area of 12' x 12'(144sq. ft). Show the location in relation to other areas of the house.  Design a full double garage for the house of your design. Include storage, laundry facilities, and a workbench. Identify the type of door you would use.	Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

**General Service Areas**

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
Unit 12 Standard Level: Full Year Elective	1 week	What are the standard dimensions for baths and bedrooms?	The sleeping area should be planned to provide facilities for maximum comfort and relaxation.	Plan and draw bedrooms for a sleeping area	Define the following terms: -central bath -compartment plan -fixtures -half-bath -lavatory -master bath	Teacher observation of student	9.4.12.B.(1).3	RH 9-12.9.
	Utilizes elements and content from previously outlined units.	Using dimensions provided in this unit, calculate the minimum size of a bedroom that could accommodate a king size bed, built-in TV, a dresser, and a lounge chair  Draw a plan of a bath you think is poorly designed. Then draw a plan for remodeling the bath to make it more functional	The sleeping area should be located in a quiet part of the house and include both bedrooms and baths.	Plan and draw baths appropriate to the size and arrangement of the floor plan  Design an efficient bath  Calculate the dimensions needed for different style baths	-walk-in closet -wardrobe closet -water closet  Design a bedroom, 100sq. ft. in size, for a six year old child.  Design a bedroom with an adjoining bath that is 200 sq. ft. in size.	Student completing teacher assigned evaluation with rubric  Successful completion of projects and assignments with terminology and content  Teacher questioning of student	Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures. 9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.  WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact with and collaborate with others.
<b>Sleeping Areas</b>								

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level: Full Year Elective</b>								
<b>Unit 13</b>	2 weeks Utilizes elements and content from previously outlined units.	<p>Explain the design process</p> <p>List the design steps necessary to design a residence through the development of a conceptual design</p> <p>Prepare a situation statement and set goals and objectives for a house of your own design</p> <p>Explain how a composite analysis is prepared and used to create a plan of a design</p>	<p>The architectural design process involves many personal, social, economic, and technical variables to create detailed working drawings.</p>	<p>Gather information from a client that is needed to design an architectural project</p> <p>Analyze a building site</p> <p>Apply the design process to prepare for drawing accurate and functional floor plans</p> <p>Create floor plan sketches</p> <p>Design floor plans to accommodate the needs of persons with physical impairments</p>	<p>Define the following terms: -base map -conceptual design -easements -floor plans -idealized drawings -room template -setbacks -single-line drawing -site analysis -site-related drawings -situation statement -user analysis</p> <p>Prepare room templates and use them to make a functional arrangement for the living area, service area, and sleeping area of a house</p>	<p>Teacher observation of student</p> <p>Student completing teacher assigned evaluation with rubric</p> <p>Successful completion of projects and assignments with terminology and content</p> <p>Teacher questioning of student</p>	<p>9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures.</p> <p>9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design.</p> <p>9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process.</p> <p>9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.</p>	<p>RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.</p> <p>WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.</p>
<b>Designing Floor Plans</b>								



Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
<b>Standard Level:</b> <b>Unit 14</b>	2 weeks	List several types of floor plans	A complete floor plan is a scaled drawing of the outline and partitions of a building as seen if the building were cut horizontally about 4' above the floor line.	Use information on a scaled floor plan to draw a complete floor plan	Define the following terms: -break line -dimension lines -multiple level floor plans -object lines -overall dimensions -reflected ceiling plans -reversed plans -schedules (door/windows) -sub dimensions -symbols -workings drawings	Teacher observation of student  Student completing teacher assigned evaluation with rubric	9.4.12.B.(1).3 Integrate structural, environmental, safety, building envelope, and building service systems in the design of buildings and structures.	RH 9-12.9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
	Utilizes elements and content from previously outlined units.	Why are symbols and schematics used in floor planning?		Name and explain the types of floor plans  Use graphic symbols to communicate information on a floor plan  Draw a floor plan according to a sequence of steps  Draw dimensions that convey precise, accurate information for builders	Draw a complete floor plan using a sketch of your own design as a guide, and using the scale 1/4" = 1'0"  Dimension an original scaled floor plan that you have completed last unit	Successful completion of projects and assignments with terminology and content  Teacher questioning of student	9.4.12.B.(1).10 Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design. 9.4.12.O.1.11 Demonstrate understanding of processes and concepts that are key to understanding the design process. 9.4.12.O.1.12 Model technical competence by developing and applying processes and concepts in the design process.	WHST 9-12.6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

**Drawing Floor Plans**

Unit	Pacing # of Weeks	Essential Questions	Enduring Understandings	Content	Skills	Assessment	NJCCCS CPI	Common Core Literacy
Standard Level: Full Year Elective Unit 15		Sketch an elevation of your own design.	Since a structure is designed from the	Apply the principles and elements of	Define the following terms:	Teacher observation of	9.4.12.B.(1).3 Integrate structural,	RH 9-12.9. Analyze how two

## Designing and Drawing Elevations

	<p>Trace the elevation four times drawing in a flat roof, gable roof, shed roof, and butterfly roof. Choose the one you like the best and the one that is most functional for your design. Explain why you made that choice.</p> <p>Sketch the front elevation of your home or a home you like. Change the roof style, but keep it consistent with the major lines of the elevation. Move or change the doors and windows to improve the design.</p> <p>Complete a scaled floor plan from the compiled sketches and consider what scale is best.</p> <p>Using a CAD program, complete a digitized printout of the plans.</p>	<p>inside out, the design of the floor plan normally precedes the design of the elevation.</p> <p>The complete design process requires a continual relationship between the elevation and the floor plan.</p>	<p>design to creating elevation drawings</p> <p>Recognize different roof styles as options for roof design</p> <p>Select and design window styles in relation to elements of design and window functions</p> <p>Locate doors on an elevation design, considering style, size, and types of doors</p> <p>Follow steps to project elevations from a floor plan and complete an elevation drawing</p> <p>Draw accurately scaled and dimensioned elevations</p> <p>Mathematically establish the pitch of a roof</p>	<p>-eave line -elevation drawing -fenestration -gable -ground line -overhang -pitch -ridge line -rise -run -slope(roof) -auxiliary elevation -datum line -exterior elevation drawings -finished dimensions -framing dimensions -interior elevation drawings -slope diagram -span</p>	<p>student</p> <p>Student completing teacher assigned evaluation with rubric</p> <p>Successful completion of projects and assignments with terminology and content</p> <p>Teacher questioning of student</p>	<p>environmental, safety, building envelope, and building service systems in the design of buildings and structures.</p> <p>9.4.12.B.(1).10</p> <p>Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design.</p> <p>9.4.12.O.1.11</p> <p>Demonstrate understanding of processes and concepts that are key to understanding the design process.</p> <p>9.4.12.O.1.12</p> <p>Model technical competence by developing and applying processes and concepts in the design process.</p>	<p>or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.</p> <p>WHST 9-12.6.</p> <p>Use technology, including the Internet, to produce and publish writing and to interact with and collaborate with others.</p>
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