HILLSBOROUGH TOWNSHIP SCHOOL DISTRICT

HILLSBOROUGH HIGH SCHOOL

APPLIED TECHNOLOGY CURRICULUM

ADVANCED DRAFTING

August 2020

This curriculum was approved by the Hillsborough Township
Public Schools Board of Education on September 21, 2020.

Advanced Drafting
Grades 10-12
Course Overview

This year-long elective class is for students primarily in grades 11 and 12 as an advanced level class in the world of technical drawing. The course meets every day for approximately 50 minutes for 4 marking periods, which culminates with a final project/exhibition of all work that students have done throughout their time in Graphic Arts classes. These collections will be displayed at the Hillsborough High School Spring Arts Festival, which occurs annually in the month of June. The only prerequisite for this class is Mechanical Drawing. Content areas in this course include portfolio creation, exploring personal strengths, career research and designing several different types of buildings, structures, and parts.

Students interested in STEAM (Science, Technology, Engineering, Art, Math) are encouraged to take this class as all aspects are covered in detail. Students also contemplating furthering their education for potential careers in STEAM areas are strongly encouraged to take this course. This 5 credit two-semester course helps fulfill the state graduation requirements for "at least 5 credits in Career Education courses". The curriculum is aligned to the New Jersey Student Learning Standards. Additionally, this curriculum makes interdisciplinary connections in Visual and Performing Arts, Language Arts and Career Readiness, Life Literacies & Key Skills content areas. Upon completion of this class, students will become eligible for enrollment in an Independent Study in Drafting.

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Safety	Continuous throughout the school year	1.2.2.Cn11b: Interact appropriately with media arts tools and environments considering safety, rules and fairness	Why is safety and important part of Graphic Arts? How do we develop safe work habits, and create a safe work environment?	Developing safe work habits as well as a safe work environment is essential to protecting yourself as well as others.	Throughout the semester, demonstrate safe and proper use of: -X-Acto Knives -Mat Board Cutters -Linoleum Block Cutters -Engraving Machine -Ink -Etching Cream -Iron -Heat Presses -Padding Compound -General Classroom Safety (such as tripping hazards and electrical equipment)	**Formative:** Teacher observation **Summative:** Quizzes Hands on demonstrations	1.5.12prof.Cr2b: Explain how traditional and non-traditional materials may impact human health and the environment, and demonstrate safe handling of materials, tools and equipment.	9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition.

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Calculating and Cutting Mat Board	Continuous throughout the school year	1.2.2.Cn11b: Interact appropriately with media arts tools and environments considering safety, rules and fairness	What is the importance of skills learned to cut mat board?	The ability to appropriately measure and cut mat board will give your artwork a neater and more complete look. The ability to appropriately measure and cut mat board creates the opportunity to refine safety practices	Measure, calculate and cut mat board using the proper procedures which includes considering factors such as: -Image width -Image height -Spacing -Frame size -Straight edge cuts -Bevel edge cuts	**Formative:** -Teacher observation **Summative:** -Final projects	1.5.12acc.Pr5a: Evaluate, select and apply methods or processes appropriate to display artwork in a specific place.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas. 9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice.

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Portfolio Development: Resume Construction	Approx. 5 days

Revising throughout school year as needed | 8.1.12.A.4 Create a personalized digital portfolio that contains a resume, exemplary projects and activities reflecting personal and academic interests, achievements, and career aspirations.

8.1.12.D.2 Demonstrate appropriate use of copyrights, fair use and creative commons. | How are college portfolios created?

What needs to go into a college portfolio?

How is work selected for a college portfolio?

How do I create professional grade work for college portfolios? | It is imperative to have a resume that clearly reflects your highest accomplishments, skills, and talents to make yourself as marketable as possible.

As a designer, you must have a balance between creativity and overbearing flare in your work for the public. | Design an attractive resume that will clearly reflect the person and student I am.

Develop new resume using Bloom's Taxonomy words to describe my talents, skills and accomplishments most effectively. | **Formative:** In-class discussions

Teacher observation

Resume questionnaire

Bloom's Taxonomy practice

Summative: Resume Project | 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept

1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision.

1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, | 9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth.

9.2.12.CAP.5: Assess and modify a personal plan to support current interests and postsecondary plans.

9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills.

9.4.12.CI.1: Demonstrate |

| | | | | | | | | and presenting artwork for a specific exhibit or event.

1.2.12adv.Cr1b: Fluently integrate a sophisticated personal aesthetic for media arts productions.

1.2.12adv.Cr2a: Fluently integrate a sophisticated personal aesthetic for media arts productions.

1.2.12adv.Pr4a: Synthesize various arts, media arts forms and academic content into unified media arts.

1.2.12adv.Pr6a: Curate, design and promote the presentation and distribution of media artworks through a variety of contexts | the ability to reflect, analyze, and use creative skills and ideas

9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities.

9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition |
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Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Portfolio Development: Portfolio Creation (Hard Copy)	Approx. 15 days

Continually revising throughout school year | 8.1.12.A.4 Create a personalized digital portfolio that contains a resume, exemplary projects and activities reflecting personal and academic interests, achievements, and career aspirations.

8.1.12.D.2 Demonstrate appropriate use of copyrights, fair use and creative commons.

1.5.12adv.Pr5a: Investigate, compare and contrast methods for | How are college portfolios created?

What needs to go into a college portfolio?

How is work selected for a college portfolio?

How do I create professional grade work for college portfolios? | In order to have an impressive college portfolio, you must highlight your greatest strengths.

Portfolios should be available in both hard copy and digital formats.

As the year progresses, you may feel the need to modify your original portfolio to include new works that you have created. | Compile a collection of my best art pieces.

Organize a meaningful flow to my portfolio to highlight my best work.

Recognize the pieces that best reflect my skills and talents to help me move forward with my career goals.

Create a hard copy portfolio to include my most skilled work for college admissions. | **Formative:** In-class discussions

Teacher observation

Reflection days

Summative: Finalized Hard Copy Portfolio | 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept

1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision.

1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, | 9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth.

9.2.12.CAP.5: Assess and modify a personal plan to support current interests and postsecondary plans.

9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills.

9.4.12.CI.1: Demonstrate the ability to reflect, |

		preserving and protecting art.				selecting, curating, and presenting artwork for a specific exhibit or event. 1.2.12adv.Cr1b: Fluently integrate a sophisticated personal aesthetic for media arts productions. 1.2.12adv.Cr2a: Fluently integrate a sophisticated personal aesthetic for media arts productions. 1.2.12adv.Pr4a: Synthesize various arts, media arts forms and academic content into unified media arts. 1.2.12adv.Pr6a: Curate, design and promote the presentation and distribution of media artworks through a variety of contexts	analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities. 9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Portfolio Development: Portfolio Creation (Digital Copy)	Approx. 15 days Continually revising throughout school year	8.1.12.A.4 Create a personalized digital portfolio that contains a resume, exemplary projects and activities reflecting personal and academic interests, achievements, and career aspirations. 8.1.12.D.2 Demonstrate appropriate use of copyrights, fair use and creative commons. 1.5.12adv.Pr5a: Investigate, compare and contrast methods for	How are college portfolios created? What needs to go into a college portfolio? How is work selected for a college portfolio? How do I create professional grade work for college portfolios?	In order to have an impressive college portfolio, you must highlight your greatest strengths. Portfolios should be available in both hard copy and digital formats. As the year progresses, you may feel the need to modify your original portfolio to include new works that you have created.	Compile a collection of my best art pieces. Organize a meaningful flow to my portfolio to highlight my best work. Recognize the pieces that best reflect my skills and talents to help me move forward with my career goals. Create a digital copy portfolio to include my most skilled work for	**Formative:** In-class discussions Teacher observation Reflection days **Summative:** Finalized Digital Copy Portfolio	1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision. 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing,	9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth. 9.2.12.CAP.5: Assess and modify a personal plan to support current interests and postsecondary plans. 9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills. 9.4.12.CI.1: Demonstrate

		preserving and protecting art.			college admissions. Decide the best ways to showcase my work digitally.		selecting, curating, and presenting artwork for a specific exhibit or event. 1.2.12adv.Cr1b: Fluently integrate a sophisticated personal aesthetic for media arts productions. 1.2.12adv.Cr2a: Fluently integrate a sophisticated personal aesthetic for media arts productions. 1.2.12adv.Pr4a: Synthesize various arts, media arts forms and academic content into unified media arts. 1.2.12adv.Pr6a: Curate, design and promote the presentation and distribution of media artworks through a variety of contexts	the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities. 9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition

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Reflection	Continuously throughout the school year	1.5.12prof.Pr4a: Analyze, select and curate artifacts and/or artworks for presentation and preservation. 1.5.12prof.Pr5a: Analyze and evaluate the reasons and ways an exhibition is presented 1.5.12acc.Re7b: Evaluate the effectiveness of visual artworks to influence ideas, feelings, and behaviors of specific audiences.	What benefits are there to self and peer critiquing?	People in all aspects of life must be open to constructive criticism from peers and outsiders. Having access to an audience's point of view will help to enhance final products by considering their suggestions and critiques.	Critique the work of myself and others while identifying areas of improvement as well as areas of strength in regard to final projects.	**Formative:** In-class discussions with peers and/or teacher Several different critiquing activities **Summative:** N/A	WHST.9-10.2.E. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing. WHST.11-12.1.D. Establish and maintain a style and tone appropriate to the audience and purpose (e.g. formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills. 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities 9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition

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Guest Speakers	Throughout year as scheduling allows	8.1.12.F.2 Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address educational, career, personal, and social needs. 8.2.12.B.3 Analyze the full costs, benefits, trade-offs and risks related to the use of technologies in a potential career path. 8.2.12.G.1 Analyze the interactions among various technologies and collaborate	How can I utilize my skills in life to help make a livable wage?	In order to merge your talents and hobbies to make a livable wage, you must be in a field that is in high demand.	I will describe different potential careers in the design field that are in high demand such as (but not limited to): -Graphic Designers -Marketing Advertisers -Tattoo Artists -Makeup Artists -Web Designers -Architects -Engineers I can formulate questions about these careers that will help me better understand them.	**Formative:** Teacher observation Group discussions Student Question Forms **Summative:** N/A	1.2.12adv.Pr5a: Employ mastered artistic, design, technical, and soft skills in managing and producing media artworks 1.2.12adv.Cn11a: Through relevant and impactful media artworks, demonstrate the relationships of media arts ideas to personal and global contexts, purposes and values. 1.5.12adv.Cr2b: Demonstrate understanding of the importance of balancing freedom and responsibility in the use of images, materials, tools and equipment in the creation and circulation of creative work.	9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth. 9.2.12.CAP.4: Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment. 9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills.

		to create a product or system demonstrating their interactivity.					SL.9-10.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.	9.2.12.CAP.8: Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors. 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Progression of Styles	Approx. 10 days	8.2.12.B.3 Analyze the full costs, benefits, trade-offs, and risks related to the use of technologies in a potential career path. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.	How has style evolved over time? What factors influence styles? Are there similarities between style evolutions in different industries (ex: clothes vs. cars)?	No matter the subject, styles are always changing and evolving. Several factors influence style such as political, social, geographic and many others. Many of these factors can spread globally and cross domains, impacting several industries. No matter the content area, all industries have seen style progression over time.	Identify a topic of interest that has evolved over time. Recognize the factors that have caused change within subject area. Develop a meaningful presentation for peers on how style has progressed within given topic over time. Respond to peer questions on the topic.	**Formative:** Teacher observation Group discussions **Summative:** Style Assignment	1.5.12adv.Cr1a: Visualize and generate art and design that can affect social change. 1.5.12adv.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices, following or breaking established conventions, to plan the making of multiple works of art and design based on a theme, idea or concept. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

| | | | | | | | criteria as well as personal artistic vision.

1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.

1.5.12adv.Pr6a: Curate a collection of objects, artifacts or artwork to impact the viewer's understanding of social, cultural and/or political experiences.

1.5.12adv.Cn10a: Synthesize knowledge of social, cultural, historical, and personal life with artmaking approaches to create meaningful works of art or design. | |

							1.5.12adv.Cn11a: Assess the impact of an artist or a group of artists on the beliefs, values and behaviors of a society. 1.5.12adv.Cn11b: Assess the impact of an artist or group of artists on global issues, including climate change	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
History of Architecture	Approx. 10-15 days	8.2.12.B.3 Analyze the full costs, benefits, trade-offs, and risks related to the use of technologies in a potential career path. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance, and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.	What is meant by the term "architectural styles"? Which European countries and styles had the greatest impact on Early American architecture? Considering the styles in this unit, which styles do you like the most? Why? What styles do you see most commonly around town?	Architecture changes and develop as societies and lifestyles change. The development of one architecture solution in one culture often causes changes in other cultures as well.	List several styles of architecture. Describe characteristics of each style of architecture. Differentiate between different architectural styles. Create references materials for future use. Critique each style of architecture and determine a personal favorite. Investigate types of architecture commonly seen in and	**Formative:** Teacher observation Group discussions -Reference booklets Mini assignments Architecture scavenger hunt **Summative:** N/A	1.5.12adv.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices, following or breaking established conventions, to plan the making of multiple works of art and design based on a theme, idea or concept. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision. 1.5.12adv.Pr6a: Curate a collection of objects, artifacts or artwork to impact the viewer's	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

					around Hillsborough.		understanding of social, cultural and/or political experiences.
							1.5.12adv.Cn10a: Synthesize knowledge of social, cultural, historical, and personal life with artmaking approaches to create meaningful works of art or design.
							1.5.12adv.Cn11a: Assess the impact of an artist or a group of artists on the beliefs, values and behaviors of a society.
							1.5.12adv.Cn11b: Assess the impact of an artist or group of artists on global issues, including climate change

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Environmental Design Factors	Approx. 5-10 days	8.2.12.B.3 Analyze the full costs, benefits, trade-offs and risks related to the use of technologies in a potential career path. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.	Why is a building's orientation in relationship to its environment so important? What is the difference between active and passive solar systems? Should buildings appear as appendages or functional parts of a land? Why?	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.	Explain why certain sides of a house receive the most light and heat. Compare different ecosystems, seasons, and geographical regions and how the housing in each varies. Determine the steps that need to be taken prior to building a structure to determine how capable of an environment it is to build on.	**Formative:** Teacher observation Group discussions Reference materials Mini assignments **Summative:** Housing styles quiz	1.5.12adv.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices, following or breaking established conventions, to plan the making of multiple works of art and design based on a theme, idea or concept. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision. 1.5.12adv.Cn10a: Synthesize knowledge of	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

							social, cultural, historical, and personal life with artmaking approaches to create meaningful works of art or design. 1.5.12adv.Cn11b: Assess the impact of an artist or group of artists on global issues, including climate change	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Floor Plans	Approx. 20 days	8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration. 8.2.12.C.2	What is a working drawing? Why are symbols and schematics used in floor planning?	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. Utilizing a universal key is vital in floor plans so that all can understand the setup and function of the structure.	Identify and interpret specific parts of a structure including plumbing, specific rooms, stairs, doors, and windows. Explain the layout of a structure by reading the floorplan. Sketch preliminary drawings of floor plans using universal scales and symbols. Create a floor plan mimicking a home or building you often spend time in.	**Formative:** Teacher observation Group discussions Reference materials **Summative:** Home floor plan project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.				engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Designing Floor Plans	Approx. 30 days	8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration.	How do you start the creation of a structure? What steps need to be taken to create a structure? Who else is involved in the creation of a structure?	The architectural design process involved many personal, social, economic, and technical variables to create detailed working drawings. Many people are involved in the creation of an architectural structure including real estate agents, engineers, township workers and others.	Explain the design process. List the design steps necessary to design a residence through the development of a conceptual design. Prepare a situation statement and set goals and objectives for a house of your own design. Explain how a composite analysis is prepared and used to create a plan of a design.	**Formative:** Teacher observation Group discussions Reference materials **Summative:** Dream Home Project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.					traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

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Elevation Drawings	Approx. 10 days	8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration.	When designing a structure, what portion is designed first? Why does the order of designing matter? Which design pieces must constantly remain aligned throughout the design process?	Since a structure is designed from the inside out, the design of the floor plan normally precedes the design of the elevation. Architect Louis Sullivan coined the mantra "form follows function"- meaning that a structure's exterior design should reflect the different interior functions. The complete design process requires a continual relationship between the elevation and the floor plan.	Sketch several elevation drawings experimenting with different features in each drawing (ex: roof styles, windows, outside features, etc.) Create an elevation drawing of your dream home keeping the "form follows function" rationale in mind. Design an elevation drawing utilizing an engineering software program.	**Formative:** Teacher observation Group discussions Elevation sketches **Summative:** Dream Home Project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.					refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Pictorial Drawings	Approx. 20 days	8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical	What is a pictorial drawing? What is the difference between isometric and oblique drawings? How are pictorial projections related to orthographic projections?	There are several types of pictorial projections, which all three dimensions are shown in one view. Isometric drawings are typically more easily understood by viewers than orthographic. Oblique drawings focus more on the front side of the object, as opposed to an isometric drawing which is typically drawn at a 45 degree angle. Pictorial and orthographic projections can show the same	Explain what pictorial, isometric and oblique drawings are. Design a pictorial drawing for peak understanding. Create several pictorial drawings to reflect all angles, features and design components of dream home.	**Formative:** Teacher observation Group discussions **Summative:** Dream Home Project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		methods of illustration. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.		object in different ways. Pictorial and orthographic projections are both necessary components when creating and interpreting directions			refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Models	Approx. 20 days	8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration. 8.2.12.C.2	How is a model created? Is there a certain way that models should be constructed?	Models can be created using a wide variety of materials but must always remain consistent by using a constant scale. Proper construction methods should be used when creating a model. This way, the designer will be able to see which aspects of the model need to be reassessed, redesigned, or modified.	Use classroom tools to design, assemble and create a final product. Design a tangible model of a dream home that accurately reflects all prior plans, drawings, and projections. Create model using basic construction principles to ensure stability.	**Formative:** Teacher observation Group discussions Mini construction assignments **Summative:** Dream Home Project Model	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and refine works of art or design considering relevant	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.				traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Computer Design	Consistently throughout year	8.1.12.A.3 Participate in online courses, learning communities, social networks or a virtual world as resources for lifelong learning. 8.1.12.D.2 Demonstrate appropriate use of copyrights, fair use and creative commons. 8.1.12.F.2 Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address educational, career, personal, and social needs. 8.2.12.B.1 Design and create a product that maximizes	Why are sketches necessary? What types of Design Engineering software exists? What other programs are available to be used for technical drawings? Are all programs in the technical drawing world expensive?	There are many different types of computer programs that can be used to create technical drawings. Many technical drawing programs are available; however, certain programs are more beneficial to use to achieve different goals.	Use a computer to prepare technical drawings and projections Describe the different kinds of programs and their functions Select an appropriate program from a variety of options to complete a task Demonstrate proficiency of several design programs through tutorials and in-person instruction. Design technical drawings,	**Formative:** Teacher observation Group discussions Mini projects involving computer design **Summative:** Dream Home Project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		conservation and sustainability of a scarce resource by using the design process and entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.			instructions and parts using several programs such as: -Adobe Illustrator -Adobe Photoshop -CAD -OnShape -Other programs, which may not be listed.		engage, revise and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.	

Unit of Study	Pacing	NJ Student Learning Standards	Essential Questions	Enduring Understandings	Learning Targets	Assessment: Formative & Summative	Interdisciplinary Connections	Career Readiness, Life Literacies, & Key Skills
Interior Design	Approx. 10 days	8.1.12.A.3 Participate in online courses, learning communities, social networks or a virtual world as resources for lifelong learning. 8.1.12.F.2 Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address educational, career, personal, and social needs. 8.2.12.B.1 Design and create a product that maximizes conservation and sustainability of a scarce resource by using the design process and	What are the main functions you are looking for in your dream home? How are open and closed floor plans different? What are special purpose rooms?	Custom homes are often designed to meet specific needs, wants and functions for the buyer. Open floor plans are more preferred in modern construction because there are less walls and more sightlines throughout the home. Any room that is going to be dedicated and designed for a specific purpose is considered a "special" room.	Review early design goals for your dream home and determine if your indoor living space ideas remain consistent with those goals. Assess the positive and negative aspects of open and closed floor plans. Decide which type of floor plan you have unknowingly designed for your home. Using a computer based design program, create the indoor living space you envision	**Formative:** Teacher observation Group discussions **Summative:** Dream Home Project	1.5.12acc.Cr1b: Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design. 1.5.12adv.Cr2a: Experiment, plan and make multiple works of art and design that explore a personally meaningful theme, idea, or concept. 1.5.12adv.Cr2c: Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives. 1.5.12adv.Cr3a: Reflect on, re-engage, revise and	9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills 9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas 9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities

		entrepreneurial skills. 8.2.12.B.2 Design and create a prototype for solving a global problem, documenting how the proposed design features affect the feasibility of the prototype through the use of engineering, drawing and other technical methods of illustration. 8.2.12.C.2 Evaluate the ethical considerations regarding resources used for the design, creation, maintenance and sustainability of a chosen product. 8.2.12.F.2 Explain how material science impacts the quality of products.			for your dream home.		refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision 1.5.12adv.Pr4a: Critique, justify and present choices in the process of analyzing, selecting, curating, and presenting artwork for a specific exhibit or event.

BIBILIOGRAPHY

Brehm, Matthew T. *Drawing Perspective: How To See It and How To Apply It*. Barron's, 2016.

Hepler, Donald E., et al. *Architecture: Drafting and Design*. Glencoe/McGraw-Hill, 1998.

Hopkins, Owen. *Architectural Styles: A Visual Guide*. Laurence King, 2014.

Jackson, Tom. *Ponderables, Engineering - An Illustrated History from Ancient Craft to Modern Technology*. Worth Press Ltd, 2016.

Jones, Will. *How to Read Houses: A Crash Course in Domestic Architecture*. Quarto Publishing, 2017.

Rydberg, Terry. *Exploring InDesign CS*. Thomson Delmar Learning, 2005.

Watkins, Pete. *Learning Photoshop CS4*. Goodheart-Willcox Company, 2010.

WEBLIOGRAPHY

"Adobe InDesign 2017 CC."

Hirschtick, Jon. *Onshape: Product Development Platform*, Mar. 2015, onshape.com.

Knoll, John, and Thomas Knoll. "Adobe Photoshop CC 2017."

Warnock, John. "Adobe Illustrator CC 2017."

ASSOCIATED JOBS LIST BY UNIT

Unit	Jobs List
Safety	• Various
Calculating and Cutting Mat Board	• Custom Framer
Portfolio Development: Resume Construction	• Various
Portfolio Development: Portfolio Creation (Hard Copy)	• Graphic Designer • Website Designer • Writer • Architect • Photographer • Make-Up Artist • Model • Interior Designer • Videographer • Video Game Designer • Computer Programmer
Portfolio Development: Portfolio Creation (Digital Copy)	• Graphic Designer • Website Designer • Writer • Architect • Photographer • Make-Up Artist • Model • Interior Designer • Videographer • Video Game Designer • Computer Programmer
Reflection	• Various
Guest Speakers	• Various
Progression of Styles	• Various
History of Architecture	• Architect • Contractor • Trade Occupations
Environmental Design Factors	• Engineer (several) • Architect
Floor Plans	• Engineer (several) • Contractor • Architect • Interior Designer • Fashion Designer
Designing Floor Plans	• Engineer (several) • Contractor • Architect • Interior Designer • Fashion Designer
Elevation Drawings	• Engineer (several) • Architect
Pictorial Drawings	• Engineer (Several) • Architect

	• Manufacturing Designer
Models	• Engineer (several) • Architect • Prototype Designer • Trade Occupations
Computer Design	• Engineer (several) • Contractor • Architect
Interior Design	• Interior Designer • Contractor • Engineer (several)