

**Trinity Area School District  
Template for Curriculum Mapping**

<b>Course: Advanced Drafting</b> <b>Grade:11-12</b> <b>Designer(s): Todd Crissman</b>	<b>Overview of Course:</b> The Advanced Drafting course is the final level of Computer-Aided Drafting (CAD) offered at Trinity Area School District. In this course, students will use prior knowledge learned in the CAD portion of the <i>Communications</i> course and learn advanced strategies and techniques to complete 2-dimensional, 3-dimensional, and architectural floor plans. Students in this course will learn about floor plan layout with attention given to form, function, and ergonomics.
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<b>Overarching Big Ideas, Enduring Understandings, and Essential Questions</b> (These “spiral” throughout the entire curriculum.)
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<b>Big Idea</b> (A Big Idea is typically a noun and always transferable within and among content areas.)	<b>Standard(s) Addressed</b> (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)	<b>Enduring Understanding(s)</b> (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understandings we want students to carry with them after they graduate. Eus will link Big Ideas together. Consider having only one or two Eus per Big Idea.)	<b>Essential Question(s)</b> (Essential Questions are broad and open ended. Sometimes, Eqs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two Eqs per Enduring Understanding.)
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<b>Advanced Drafting</b>			
DESIGN	3.4.10.C1: Apply the components of the technological design process.	Components of designs fulfill specific needs.	How can specific needs of a product affect the design and function of a product?
ENGINEERING	3.4.10.C2: Analyze a prototype and/or create a working model to test a design concept by making actual observations and necessary adjustments.	Working models are necessary to use in order to test a design concept.	How can the product be modified to fit the design requirements? Give an example of how a working model can be used to test a design concept.
PROTOTYPES	3.4.10.D1: Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of a final product.	Prototypes are used to ensure quality of a final product.	What is the role of a prototype when fabricating a product?

FORM/FUNCTION	3.4.10.E7: Evaluate structure design as related to function, considering such factors as style, convenience, safety, and efficiency.	Factors such as style, convenience, safety, and efficiency should be considered when evaluating structure design.	How do factors such as style, convenience, safety, and efficiency affect structure design?
MEASURING	2.3.5.B: Select and use appropriate instruments and units for measuring quantities to a specified level of accuracy.	Appropriate tools are needed in order to measure accuracy.	What measuring tools should be used for appropriate measuring situations?
ACCURACY	2.3.11.C: Use properties of geometric figures and measurement formulas to solve for a missing quantity (e.g., the measure of a specific angle created by parallel lines and a transversal).	Precise measurements need to be used to ensure an accurate product.	How does precision affect quality control of a product?
SCALING	2.3.8.E: Describe how a change in linear dimension of an object affects its perimeter, area, and volume.	A change in linear dimension of an object affects its perimeter, area, and volume.	How are perimeter, area, and volume related to linear dimensions?
RESEARCH	1.8.8.B: Conduct inquiry and research on self-selected or assigned topics, issues, or problems using a variety of appropriate media sources and strategies.	Appropriate search tools are needed to locate information for research.	How can search tools be used to locate information about safety and products?
DRAWING	3.4.10.E4: Evaluate the purpose and effectiveness of information and communication systems.	Drawings are an effective way to show detail.	How can a drawing be more effective than a written description?
ANGLES	2.3.11.B: Measure and compare angles in degrees and radians.	Drawings use angles to enhance function and accuracy.	How can a drawing use angles to enhance function and accuracy?
DESIGN PROCESS	S.11.A.2.1.2: Critique the elements of the design process (e.g. identify the problem, understand criteria, create solutions, select solution, test/evaluate and communicate results) applicable to a specific technological design.	The Design Process is used for research, development, and implementation of a product.	How do you go about making a product from a need or want to a finished result?



Month(s) 1-6	DRAFTING	MEASURING	2.3.11.A	Appropriate tools are needed in order to measure accuracy.	What measuring tools should be used for appropriate measuring situations?	Exams, teacher observation.	Handouts, websites.
Month(s) 1-6	DRAFTING (CONTINUE D)	SCALING	2.3.8.B	A change in linear dimension of an object affects its perimeter, area, and volume.	How are perimeter, area, and volume related to linear dimensions?	Exams, worksheets, teacher observation.	Handouts, websites, PPT.
Month(s) 1-6	DRAFTING (CONTINUE D)	ACCURACY	2.3.11.C:	Precise measurements need to be used to ensure an accurate product.	How does precision affect quality control of a product?	Student projects, teacher observation	Handouts, websites, PPT.
Month(s) 1-6	DRAFTING (CONTINUE D)	DRAWING	3.4.10.E4:	Drawings are an effective way to show detail.	How can a drawing be more effective than a written description?	Student projects, teacher observation	Handouts, websites, PPT.

\* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.