Blackhawk School District

CURRICULUM

Course Title: Technical Design

Course Number: 1029 Grade Level(s): 9-12

Length of Course: 1 semester

Credits: .5

Faculty Author(s): Dale Moll

Date: January 2010

COURSE DESCRIPTION:

In this course the students will Analyze and interpret technical designs and learn appropriate drafting terminology. Student will apply standard sketching, drafting, and problem solving techniques to solve engineering graphic problems. Emphasis will be placed on in class projects using manual drafting and freehand sketching. Projects will include (but not limited to) technical drawings, packaging design, and cardboard chairs.

COURSE OUTLINE	OBJECTIVES (PA standard)	PROPOSED TIME / ACTUAL TIME	RESOURCES	LESSON REFLECTION (for future revisions)
Intro/Overview of Class	3.4.12.A2.	1 Day	Promethean	
Review of Measuring using the 16 scale	Describe how management is the process of planning, organizing, and controlling work. 3.4.12.A3.	1 Day	board projector and computer	
Introduction to drafting tools, types of lines, and grading criteria	Demonstrate how technological progress promotes the advancement of science, technology, engineering and mathematics (STEM).	4Days	Drafting tools and paper	
Orthographic Drawing and Sketching (3 Drawings) Orthographic View	3.4.10.B2. Demonstrate how humans devise technologies to reduce the negative consequences of other technologies.	9Days	Poster Board Adhesives	
Object LinesHidden LinesTitle Blocks	3.4.10.B3.Compare and contrast how a number of different factors, such as advertising, the strength of the economy, the goals of a company and the latest fads, contribute to shaping the design of and demand for			
Orthographic drawing and dimensioning (2 Drawings) Orthographic View Object Lines	various technologies. 3.4.10.B4. Recognize that Technological development has been	8 Days		
Hidden LinesTitle BlocksExtension Lines	evolutionary, the result of a series of refinements to a basic invention. 3.4.12.B1.			
 Dimension Lines Arrowheads 	Analyze ethical, social, economic, and cultural considerations as related to the development, selection, and use of technologies.			
Orthographic Drawing and Sectioning Orthographic View Object Lines	3.4.10.C1. Apply the components of the technological design process. 3.4.12.C2.	8 Days		
 Hidden Lines Title Blocks Extension Lines 	Apply the concept that engineering design is influenced by personal characteristics, such as creativity,			
Dimension LinesArrowheads	resourcefulness, and the ability to visualize and think abstractly.			
Section Lines	3.4.12.C3.			
Isometric Drawing (2 Drawings)	Apply the concept that many technological problems	4 Days		

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• 30 Degree Angle	require a multi-disciplinary approach.		
How Different than a	3.4.10.D1.		
perspective Drawing	Refine a design by using prototypes and modeling to		
Outh a supulia and Isametria	ensure quality, efficiency, and productivity of a final	5 Days	
Orthographic and Isometric Drawing	product.	J Days	
Orthographic View	3.4.12.D2.		
Otthographic view Object Lines	Verify that engineering design is influenced by personal		
Hidden Lines	characteristics, such as creativity, resourcefulness, and		
Title Blocks	the ability to visualize and think abstractly.		
Extension Lines			
Dimension Lines	3.4.10.D3.		
Arrowheads	Synthesize data, analyze trends, and draw conclusions		
Milowicaus	regarding the effect of technology on the individual,		
Sheet Metal/Cardboard	society, and the environment.	7.0	
Drawings (2 Drawing)	3.4.12.E4	7 Days	
Fold Lines	Synthesize the effects of information and communication		
• Cut Lines	systems and subsystems as an integral part of the		
• Dimensions	development of the Information Age.		
Title Block	3.4.12.E6.		
• Glue/weld tab	Compare and contrast the importance of science,		
	technology, engineering and math (STEM) as it pertains		
Packaging Design Project	to the manufactured world.	8 Days	
• Sketches	to the managed to world.		
Engineered Drawing			
• Prototype			
Drives and Treads (3)		7 Days	
Drives and Treads (5)Drill and Driver Types		Days	
Drill and Driver TypesThreads			
• Inreaus			
Assemblies/ Cardboard Chair		18 Days	
Designs Caraboara Chair		-	