Eastern School District

Course Descriptor

(September, 08, 2008)

Course: Design and Fabrication 1202

Text: Non Required

Course Description:

Design and Fabrication 1202 requires students to acquire knowledge of the design process and develop hands-on fabrication skills through a combination of classroom instruction and shop laboratories. This course should be of interest to students with varied academic abilities and hands-on skills. The acquisition of practical skills and knowledge is emphasized from design concept to finished product being addressed. This approach allows students to explore various career options in design from skilled trades to engineering.

Course Content

Unit 1 Introduction to Design 10 hrs

Topic1 History of design

Topic 2 The Design Process

Topic 3 Social/Environmental Consideration

Topic 4 Design for Fabrication

Topic 5 Careers In design

Unit 2 Fabrication Techniques 11 hrs

Topic 1 Shop Safety

Topic 2 Metrology

Topic 3 Machine operation

	Topic 4	Environmental Protection	
	Topic 5	Shop Related Careers	
Unit 3	Introduction to Shop Practices		17 hrs
	Topic1	Material Types and Properties	
	Topic 2	The Production Environment	
	Topic 3	Processing of Materials	
	Topic 4	Careers in Production	
Unit 4	Graphical Communication		10 hrs
	Topic 1	Lettering and Sketching	
	Topic 2	2D Orthographic Views	
	Topic 3	3D Pictorial Drawing	
	Topic 4	Working Drawing	
	Topic 5	Drafting Related Careers	
Unit 5	Introduction to CAD/CAM		16 hrs
	Topic 1	Creating Entities	
	Topic 2	Display Manipulation	
	Topic 3	Modifying Entities	
	Topic 4	Dimensioning	
	Topic 5	Plotting	
	Topic 6	Computer Aided Manufacture	
Unit 6	The Design Process		46 hrs
	Topic 1	The Design Portfolio	

Topic 2	Defining the Problem
Topic 3	Generating Options
Topic 4	Selecting the Best option
Topic 5	Developing the Solution
Topic 6	Prototyping and Testing
Topic 7	Evaluation and Redesign

Evaluation Guidelines

Teachers are encouraged to utilize a variety of assessment methods to evaluate the progress of students in this course. Written tests, quizzes, reports, work portfolios, seatwork, research assignments and practical hands on projects may all be used to determine the success of the students. Given the hands on nature of the course and the use of small group activities anecdotal reports of daily group happenings is encouraged. Assessment rubrics are excellent instruments in assessing both individual and group project work.

Weighting of Evaluation Components

Design 1202 is designed to provide students with an opportunity to develop skill and knowledge in processing a variety of materials and to apply the Design Process to a given problem. Teachers are recommended to build evaluation schedules along this split.

Quizzes and Tests	20%
Class/Lab Assignments	10%
Prototype Performance	20%
Design Portfolio	30%
Participation	20%