

CURRICULUM

Technology Education

GRAPHICS I

(Elective Course)

Supports Academic Learning Expectations # 3

Students and graduates of Ledyard High School will employ problem-solving skills effectively

**Approved by Instructional Council
6/02/08**

STUDENT LEARNING OBJECTIVES
Graphics I

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #1 (State Standard #1) The Nature & Evolution of Technology</p> <p>Understand the nature of technology, how it has evolved and its influence on its own evolution</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>1.1 Critically analyze a given technology against a perceived need or want</p> <p>1.2 Research how, social, economic, and political forces influence innovation, invention and adaptation</p> <p>1.5 Use the systems model to analyze a complex technological system;</p> <p>1.6 Investigate the universal characteristics of systems and sub-systems;</p>	<p><i>Students will be able to:</i></p> <p>a. Design, digitize, and perfect a personal and commercial logos in an image manipulation and drawing program such as Adobe Photo Shop and Illustrator</p> <p>a. Demonstrate an understanding of the advantages and disadvantages between traditional hand design and paste up techniques and Desk Top Publishing</p> <p>a. Explain how images are captured, changed, stored, sent/transferred, and published using equipment such as cameras, videos, scanners, and computers (internet/intranet)</p> <p>a. Identify the characteristics of the printing graphics industry that are used world-wide such as message analysis, prepress, press, and dissemination</p>

STUDENT LEARNING OBJECTIVES
Graphics I

As a result of Technology Education, students independently and collaboratively will be able to:

GOAL: District Goal #2 (State Standard #2) The Impacts of Technology	
Understand the impact that technology has on the personal, social, cultural, economic, political and environmental aspects of their lives.	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<i>Students will know how to:</i>	<i>Students will be able to:</i>
2.1 Analyze technologies based on their positive and negative impacts;	a. Select the most effective and safe technology such as color versus black and white and different sizes of produced printed material needed to perform a task
2.2 Describe the evolution of a technological system and its influence on the economy, culture, society and environment;	a. Describe the evolution of graphics from cave drawings to computer generated products
2.3 Demonstrate an understanding of local, state and national regulatory agencies in home and workplace safety;	a. Demonstrate an understanding of the role government safety agencies such as OSHA (Occupational Safety and Health Administration) and NIOSH (The National Institute of Safety and Health) play in the workplace b. Read and use the information contained on necessary material safety sheets
2.4 Select and demonstrate ethical solutions to technological problems;	a. Demonstrate an understanding of copyright and software usage laws as they apply to the graphics industry
2.5 Identify and explore career opportunities in the areas of technology;	a. Identify careers related to graphic arts that could be pursued using their developed skills b. Use www.makeyourmark.com and www.graphiccentral.com to help explore related careers
2.6 Describe and evaluate how society's expectations drive technological development;	a. Describe society's expectations concerning the characteristics and development such as color, speed, animation, cost and delivery of graphic products

STUDENT LEARNING OBJECTIVES
Graphics I

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #3 (State Standard #3) The Research, Design & Engineering</p> <p>Recognize that technology is the result of a creative act, and will be able to apply formal problem-solving strategies to enhance invention and innovation.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>3.1 Use research techniques to support design development;</p> <p>3.2 Investigate multiple solutions to a design problem;</p> <p>3.3 Use a communication technologies to visualize a design idea;</p> <p>3.4 Demonstrate knowledge of the legal and ethical principles related to ownership of intellectual properties</p> <p>3.5 Document a design to facilitate replication;</p> <p>3.6 Select appropriate technical processes and fabricate a prototype;</p>	<p><i>Students will be able to:</i></p> <p>a. Use internet and mass media to facilitate product design</p> <p>a. Select appropriate materials and processes to create specific graphic products</p> <p>a. Use basic imaging programs such as Adobe Photo Shop and Illustrator to design graphic products</p> <p>a. Demonstrate an understanding of copyright and software usage laws as they apply to the graphics industry</p> <p>a. Demonstrate an understanding of the design format such as file types (eps, jpg, tiff) needed for specific graphic replication</p> <p>a. Create a message and select appropriate program(s) to facilitate replication</p>

STUDENT LEARNING OBJECTIVES
Graphics I

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #4 (State Standard #) 4 The Creation & Use of Technology</p> <p>Know the origins, properties and processing techniques associated with the material building blocks of technology as demonstrated by effective application of the methods producing usable products and by effectively using those products.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>4.1 Compare the techniques used to extract raw materials;</p> <p>4.2 Process materials based on their properties;</p> <p>4.3 Experiment with the alteration of material characteristics;</p> <p>4.4 Create a product demonstrating the application of technological processes;</p> <p>4.5 Use tools and procedures safely;</p> <p>4.6 Select appropriate tools and procedures for a given task;</p> <p>4.7 Identify and describe methods used in manufacturing products;</p>	<p><i>Students will be able to:</i></p> <p>a. Explain the production of paper and graphic media</p> <p>a. Discuss the process for printing graphics on a variety of materials with regard to their properties</p> <p>a. Explore ways to alter characteristics of graphic arts materials</p> <p>a. Select and create one of the many commercially printed products such as posters, charts, playing cards, labels, business cards, and letterheads</p> <p>a. Use graphic arts tools such as paper cutters, cameras, screen printing equipment and computers in a safe manner</p> <p>b. Identify unsafe situations in the workplace and decide how to correct them</p> <p>a. Select appropriate graphic program(s) and equipment needed to produce the assigned product</p> <p>a. Identify appropriate tools, processes, and correct sequential steps needed to produce a finished product</p>

STUDENT LEARNING OBJECTIVES

Graphics I

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #5 (State Standard #5) The Future of Technology</p> <p>Demonstrate the ability to take known principles of technological innovation and apply them to hypothetical scenarios effectively.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>5.1 Forecast trends in new and emerging technologies (e.g. nanotechnology, electro-magnetic radiation in communications, bio-related and alternative energy sources) and their potential impacts;</p> <p>5.2 Explore future labor market trends and educational needs</p> <p>5.5 Identify and explore technological solutions to future global needs and their impacts on individuals;</p> <p>5.6 Explore how human beings use technology to increase the carrying capacity of their environment</p>	<p><i>Students will be able to:</i></p> <p>a. Research and share in written form new and emerging technologies in imaging, speed, and processes used in printing</p> <p>b. Discuss the potential impact on the graphic arts industry of new and emerging technologies</p> <p>a. Explore related careers of interest and the necessary skills required</p> <p>a. Recognize that paper is a renewable resource</p> <p>b. Identify the future, world-wide impact of computer generated graphics</p> <p>a. Perform graphic arts tasks to minimize waste/scrap produced in order to decrease the human footprint on the environment</p> <p>b. Select and use technologies that are less harmful to the environment</p>

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STUDENT LEARNING OBJECTIVES
Graphics II

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #1 (State Standard #1) The Nature & Evolution of Technology</p> <p>Understand the nature of technology, how it has evolved and its influence on its own evolution</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>1.1 Critically analyze a given technology against a perceived need or want</p> <p>1.2 Research how, social, economic, and political forces influence innovation, invention and adaptation</p> <p>1.5 Use the systems model to analyze a complex technological system;</p> <p>1.6 Investigate the universal characteristics of systems and sub-systems;</p>	<p><i>Students will be able to:</i></p> <p>a. Design, digitize, and perfect personal and commercial logos utilizing advanced features in an image manipulation and drawing program such as Adobe Photo Shop, Illustrator and In-Design</p> <p>a. Research a topic of interest from the history of printing and create a two-sided flashcard that illustrates the impact of the specific topic</p> <p>a. Demonstrate an understanding of how an image making machine such as a copy machine or printer works by breaking it down into its basic systems</p> <p>a. Incorporate universal characteristics of graphic systems through world wide web communication</p>

STUDENT LEARNING OBJECTIVES
Graphics II

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<p>GOAL: District Goal #2 (State Standard #2) The Impacts of Technology</p> <p>Understand the impact that technology has on the personal, social, cultural, economic, political and environmental aspects of their lives.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>2.1 Analyze technologies based on their positive and negative impacts;</p> <p>2.2 Describe the evolution of a technological system and its influence on the economy, culture, society and environment;</p> <p>2.4 Select and demonstrate ethical solutions to technological problems;</p> <p>2.5 Identify and explore career opportunities in the areas of technology;</p> <p>2.6 Describe and evaluate how society's expectations drive technological development;</p>	<p><i>Students will be able to:</i></p> <p>a. Select from a wider variety of methods and technologies such as using silk screen versus direct transfer, and the most effective and safe processes needed to perform a task</p> <p>a. Produce a graphic product using the techniques found in one of the historical timeframes of graphic arts such as type development and compare and contrast the process with modern techniques</p> <p>a. Simulate completing an application for a copyright for a graphic arts product</p> <p>a. Research careers related to graphic arts that could be pursued using their advanced skills</p> <p>b. Use www.makeyourmark.com and www.graphiccentral.com to help explore a wider variety of related careers</p> <p>c. Create a graphics portfolio</p> <p>a. Locate and compare examples demonstrating society's expectations concerning such things as color, speed, animation, cost, and delivery of graphic products</p>

STUDENT LEARNING OBJECTIVES

Graphics II

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<p>GOAL: District Goal #3 (State Standard #3) The Research, Design & Engineering</p> <p>Recognize that technology is the result of a creative act, and will be able to apply formal problem-solving strategies to enhance invention and innovation.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>3.1 Use research techniques to support design development;</p> <p>3.2 Investigate multiple solutions to a design problem;</p> <p>3.3 Use a communication technologies to visualize a design idea;</p> <p>3.5 Document a design to facilitate replication;</p> <p>3.6 Select appropriate technical processes and fabricate a prototype;</p>	<p><i>Students will be able to:</i></p> <p>a. Use print and non print material to enhance product design</p> <p>a. Select appropriate materials and processes from a wide variety to create advanced graphic products such as graphics art brochures, newsletters, and a product webpage</p> <p>a. Use the advanced features of imaging programs such as Adobe Photo Shop, Illustrator and In-Design to create graphic products</p> <p>a. Demonstrate an understanding of preflighting needed for specific graphic replication</p> <p>a. Select appropriate imaging program(s) to research, design, build and evaluate a variety of graphic communication products</p>

STUDENT LEARNING OBJECTIVES
Graphics II

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<p>GOAL: District Goal #4 (State Standard #) 4 The Creation & Use of Technology</p> <p>Know the origins, properties and processing techniques associated with the material building blocks of technology as demonstrated by effective application of the methods producing usable products and by effectively using those products.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>4.2 Process materials based on their properties;</p> <p>4.3 Experiment with the alteration of material characteristics;</p> <p>4.4 Create a product demonstrating the application of technological processes;</p> <p>4.5 Use tools and procedures safely;</p> <p>4.6 Select appropriate tools and procedures for a given task;</p> <p>4.7 Identify and describe methods used in manufacturing products;</p>	<p><i>Students will be able to:</i></p> <p>a. Apply the process for printing graphics on a variety of materials with regard to their properties</p> <p>a. Apply a variety of ways to alter characteristics of graphic arts materials such as alteration of ink color and viscosity</p> <p>a. Create one of many commercially printed products such as containers, booklets, and brochures</p> <p>a. Continue to use graphic arts tools in a safe manner b. Continue to recognize unsafe situations in the workplace and decide how to correct them</p> <p>a. Select appropriate graphic program(s) and equipment needed to produce the assigned product</p> <p>a. Identify and utilize appropriate tools, processes, and correct sequential steps needed to produce a finished assigned product</p>

STUDENT LEARNING OBJECTIVES

Graphics II

As a result of Technology Education, students independently and collaboratively will be able to:

<p>GOAL: District Goal #5 (State Standard #5) The Future of Technology</p> <p>Demonstrate the ability to take known principles of technological innovation and apply them to hypothetical scenarios effectively.</p>	
LEARNING OBJECTIVES	SAMPLE INDICATORS/ASSESSMENTS OF LEARNING
<p><i>Students will know how to:</i></p> <p>5.1 Forecast trends in new and emerging technologies (e.g. nanotechnology, electro-magnetic radiation in communications, bio-related and alternative energy sources) and their potential impacts;</p> <p>5.2 Explore future labor market trends and educational needs</p> <p>5.6 Explore how human beings use technology to increase the carrying capacity of their environment</p>	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> a. Research and share in written form new and emerging technologies in large format printing b. Describe potential impact on the graphic arts industry of new and emerging technologies especially related to large format printing <ul style="list-style-type: none"> a. Research and share the economic impact of the local graphic arts industry <ul style="list-style-type: none"> a. Continue to perform graphic arts tasks to minimize waste/scrap produced in order to decrease the human footprint on the environment b. Continue to select and use technologies that are less harmful to the environment