

BILLINGS PUBLIC SCHOOLS
GRAPHIC ARTS
Adopted April 15, 2002

MISSION STATEMENT

The Career Center is dedicated to providing Billings area students with an education that explores and enhances vocational and academic skills to promote critical thinking, self-discipline, and responsible citizenship.

BELIEF STATEMENTS

1. We believe in an environment that fosters mutual respect and dignity.
2. We believe that students and faculty should maintain pride in their work to improve their performance.
3. We believe that academic skills lay the foundation for critical thinking, problem solving, mathematical and communication skills.
4. We believe in the integration of academic and career areas.
5. We believe in the importance of current technology and its impact on the future.
6. We believe that students who are encouraged to set goals will gain confidence in their potential and ability to contribute to society.
7. We believe mutual support between school and community is an integral part of a students learning experience.

PHILOSOPHY

We believe every student can understand the general nature and use of communication design to visually communicate, solve problems, reason inductively and deductively, and apply communication concepts necessary to function in a technological society. We believe instructional strategies must include real world applications and appropriate use of technology. We believe students must be able to apply graphic arts as a communication medium. Therefore, as an educational system, we believe we can teach all children and all children can learn. We believe basic skills, thinking skills and personal qualities are the foundations for learning in an ever changing world. We believe education enables students to recognize and strive for higher standards. Consequently, we will commit our efforts to help students acquire knowledge and attributes considered valuable in order to develop their potential and/or their career and lifetime aspirations.

LEARNING DOMAINS

- I. Student will develop an understanding and sense of graphic communication, design and layout, typography, offset press procedures, and general desktop publishing.**
- II. Student will develop an understanding of 35mm photography, black and white darkroom developing, and procedures, and screen printing as a communication medium.**
- III. Student will develop an understanding of digital photography and supporting software as communication mediums.**
- IV. Student will develop an understanding of computer aided graphic and illustration using technological tools as a communication medium.**
- V. Student will develop an understanding of computer technological tools as a communication medium.**

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Learners Objectives

- I. Student will develop an understanding and sense of graphic communication, design and layout, typography, offset press procedures, and general desktop publishing.**
1. Student will differentiate graphic arts from fine arts.
 2. Student will identify and apply the following principles:
 - a. elements of art in design layout
 - b. principles of art in design layout
 3. Student will recognize and identify typographical compositions.
 4. Student will utilize offset press operation to produce a printed product.
 5. Student will use appropriate technology to explore and discover design and visual communications.
- II. Student will develop an understanding of 35mm photography, black and white darkroom developing, and procedures, and screen printing as a communication medium.**
6. Student will utilize 35mm knowledge in various visual projects:
 - a. pinhole camera
 - b. developing negatives
 - c. contact print positives
 7. Student will identify and apply the following darkroom procedures:
 - a. safety
 - b. chemistry, time, temperatures
 - c. contact printing
 8. Student will utilize and apply the following screen printing procedures:
 - a. prepare frame
 - b. paper stencil
 - c. cut film stencil
 - d. photo emulsion stencil
- III. Student will develop an understanding of digital photography and supporting software as communication mediums.**
9. Student will learn and utilize basic CPU skills.
 10. Student will acquire the following skills in Adobe Photoshop software.
 - a. canners
 - b. image setter
 - d. printers

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Learners Objectives

- IV. Student will develop an understanding of computer aided graphic and illustration using technological tools as a communication medium.**
- 11. Student will acquire skills in Adobe Illustrator.
 - 12. Student will utilize equipment such as:
 - a. scanners
 - b. digital cameras
 - c. image setter
 - d. printers
 - 13. Student will apply concepts and knowledge to create graphic art images and products.
- V. Student will develop an understanding of computer technological tools as a communication medium.**
- 14. Student will explore career opportunities through job shadowing opportunities.
 - 15. Student will explore career opportunities through classroom speakers (from industry and post secondary institutions).
 - 16. Student will explore career opportunities through web searches of graphics industry job sites, etc.

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Activity Summary

Activity Summary of Graphics I

Acquiring skills in Adobe Illustrator
Advanced design fundamentals
Scanning fundamentals
Image Setter projects
Camera
Offset printing
Desktop publishing
Layout and Design
Advanced Press Operation/Production
Journal Binding
Safety/Job Readiness/updating resume
Job Shadowing
Business Community Involvement
History of the Airbrush - Its application and development in the commercial world
Anatomy of the airbrush - parts of, cleaning, repairs, adjustments
Spraying techniques - spraying patterns, air/paint mixture
Mediums/substances - mixing consistency of inks, watercolor, gauche substrates; paper, wood, metal, plastic, glass
Masking films - dry applications, self-adhesive frisket, contact paper, shields
Define role of graphics
Safety and Industry customs
Desktop publishing
Word processing
Digital processes
Bindery/Cutting
Platemaking
Film Assembly/Line Photography
Introduction to Daylight Camera Operation -1 color design and printing (offset)
Principles of design layout
Introduction to form design
Computer, Photo and Art Manipulation
Introduction to quick Printing and Copying
Press Operation
Intro to air brush
Business community exploration
A quick tour of Adobe Photoshop
Selecting - layers, filters, painting, retouching actions
Saving the file

Activity Summary of Digital Illustration

Getting to know the Work Area
Getting started
Viewing artwork
Using Illustrator tools
Changing the view of artwork
Working with palettes
Using context menus
Calibrating your monitor
Using on-line help
Using Adobe on-line services

Creating Basic Shapes

Getting started
Setting up the document
Using the tools
Drawing the pencil shape
Drawing the piece of stationary
Decorating the stationary border
Painting the logo
Copying and scaling shapes

Painting

Getting started
Filling with color
Stroking with color
Building a custom palette
Copying paint attributes
Saturating colors
Painting with patterns and gradients
Painting with a pattern brush
Making multiple transformations

Working with Type

Sampling type
Changing the character size
Creating columns of type
Changing character attributes of placed text
Changing paragraph attributes
Adjusting the text flow
Wrapping type around a graphic
Typing along a path
Creating type outlines (letterforms)
Creating type masks

Blending Shapes and Colors

- Getting started
- Creating a gradient fill
- Adjusting the direction of gradient blend
- Adding colors to a gradient
- Creating smooth-color blends
- Blending intermediate steps
- Modifying the blend
- Combining blends with gradients
- Exploring on your own

Creating Shapes with Pathfinder

- Getting started
- Uniting shapes
- Removing shapes to create a new object
- Intersecting objects
- Trimming objects
- Blending Colors with the soft Mix command
- Blending colors with the Hard Mix command
- Dividing shapes with the Divide command
- Exploring on your own

Working with Layers

- Getting started
- Creating layers
- Moving objects and layers
- Locking layers
- Viewing layers
- Pasting layers
- Exploring On your own

Creating Watercolor or Airbrush Effects

- Getting started
- Setting Smart Guides preferences
- Painting with the gradient mesh tool
- Specifying the number of mesh lines
- Applying colors to the mesh
- Highlighting a mesh object
- Editing mesh points
- Reflecting mesh objects
- Modifying mesh lines
- Exploring on your own

Drawing with the Pen

- Getting started
- Drawing Straight lines
- Drawing curves
- Editing curves
- Finishing the pear illustration
- Exploring on your own

Working with Brushes

- Applying brushes to paths
- Getting started

Working with Brushes (cont.)

- Using Art brushes
- Using Scatter brushes
- Changing the color attributes of brushes
- Changing the fill color with brushes
- Using Calligraphic brushes
- Creating brushes
- Exploring on your own

Transforming Objects

- Getting started
- Scaling objects
- Rotating objects
- Distorting objects
- Shearing objects
- Positioning objects precisely
- Reflecting objects
- Changing the perspective
- Using the free transform tool

Activity Summary of Digital Photography

Quick Tour of Adobe Photoshop

- Selecting
- Layers
- Filters
- Painting
- Retouching Actions
- Saving the file

Getting to know the Work Area

- Starting the Adobe Photoshop program
- Opening files
- Using the Photoshop tools
- Viewing Images
- Working with palettes
- Using on-line help
- Using Adobe on-line services

Working with Selections

- Tool overview
- Getting started
- Selecting with the rectangular marquee tool
- Selecting with the elliptical marquee tool
- Moving a selection
- Selecting with a magic wand
- Selecting with the lasso tool
- Adding and subtracting selections
- Selecting with the magnetic lasso tool
- Transforming a selection
- Combining selection tools
- Cropping the completed image

Layer Basics

- Organizing artwork on layers
- Getting started
- Creating and viewing layers
- Selecting and removing artwork on a layer
- Re-arranging layers
- Changing the opacity and mode of a layer
- Linking layers
- Adding a gradient to a layer
- Adding text
- Adding a layer effect
- Flattening and saving files

Painting and Editing

- Getting started
- Painting and filling images with color
- Setting up a painting or editing tool
- Painting within a selection
- Erasing
- Filling with the paint bucket tool
- Using custom brushes
- Airbrushing and smudging
- Creating soft-edge effects
- Painting with texture
- Defining a brush

Masks and Channels

- Working with masks and channels
- Getting started
- Creating a quick mask
- Editing a quick mask
- Saving a selection as a mask
- Editing a mask
- Loading a mask as a selection and applying effects
- Creating a gradient mask
- Loading the gradient mask as a selection and applying effects

Photo Retouching

- Strategy for retouching
- Resolution and image size
- Getting started
- Cropping an image Adjusting the tonal range
- Removing a color cast
- Replacing colors in an image
- Adjusting saturation with the sponge tool
- Adjusting lightness with the dodge tool
- Removing unwanted objects
- Replacing part of an image
- Applying the Unsharp Mask filter
- Saving the image

Basic Pen Tool Techniques

- Getting Started
- Drawing paths with the pen tool
- Drawing straight paths
- Drawing curved paths
- Combining straight and curved likeness
- Drawing a path around artwork

Advanced Layer Techniques

- Getting started
- Adding guides to align artwork
- Working with layer masks
- Aligning images
- Align layers
- Creating a clipping group
- Adding adjustment layers
- Adding text
- Adding multiple layer effects
- Removing layer masks
- Flattening a layered image

Creating Special Effects

- Getting started
- Saving and loading a selection
- Hand-coloring selections on a layer
- Combining and moving selections
- Colorizing a selection using a grid
- Changing the color balance
- Applying filters
- Improving performance with filters

Combining Illustrator Graphics & Photoshop Images

- Combining artwork
- Getting started
- Placing an Adobe Illustrator file
- Distorting the graphic to match the photograph
- Using blending modes on the graphic
- Exporting the image
- Exploring on our own

Preparing Images for Web Publication

- Restoring default preferences
- Preparing images for the Web
- Using the Actions palette to automate tasks

Activity Summary of Photo/Silkscreen

Printing

Screen Printing History
Silk Screen frame preparation
Screen meshes and stencils
Types of Screen printing inks - waterbase, oil base, plastisol
Design an illustration - drawing-thumbail, roughdraft, comprehensive
Computer graphics
Paper stencil screen print – named design, cut out, printing
Cut Film silk screen print – basic design, exacto cut out, cut film transfer to silk, printing
Photo emulsion silkscreen – graphic design, photo preparation, screen emulsion preparation, creating a transparent image
Basic process camera work
Making artwork camera ready, image setter, thermal transfer
Transferring image to photo emulsion plate marker/light source, image wash-out, printing
Multi-color screen
Registration
Ink mixing (water base/oil base)

Photography

Intro to the cameras/photography, safety in the darkroom, design & build a pin hole cameras, computing exposure times, photo chemistry, developer, stop bath, fixer, rinse, pinhole pictures, create a paper negative, create a paper positive
Camera types – 35mm, medium format, large format, digital
35mm camera controls – film speed, shutter speed, aperture
Holding the camera
Identify camera parts
Use camera light meters
Use handheld light meters
Use darkroom equipment – chemistry, enlargers, set up focusing, aperture, developing reels/tanks, developing trays, safe lights, enlargers timers, print dryers
Developing 35mm film – practice film loading, film developing cycle, photographic printing, enlarger set – easel, size, exposure, cropping
Make a test print - Select and set correct exposure time, Pinhole exposure, develop print, dry print/contact print

Photo assignment - filed trip camera control – take at least three sets of three views of a subject, develop film, print contact sheet, print one set of three 5”x7”

Photo assignment - filed trip composition – take three pictures of each compositional guide, framing, rule of thirds, line, center of interest, merger
Develop film
Print contact sheet
Print one set of 5”x7” for each composition
Dry mount
Critique

Photo assignment - field trip shutter speed – take pictures showing movement, fast shutter speed-stop motion, slow shutter speed – planning techniques
Develop film
Print contact sheet
Print one of each 5”x7”
Dry mount

Photo assignment – depth of field – aperture control - take 20 pictures changing aperture setting, small aperture – f16, large aperture – f2
Develop film
Print contact sheet
Print one of each 8”x10”
Dry mount

Photo assignment - field trip - best photo – take pictures with composition and interest
Develop film
Print contact sheet
Print one of each 8”x10”
Dry mount

Photo assignment - light designs – take portrait pictures, pancake lighting, 45 degree, Rembrandt, glamour, back light/rim
Develop film
Print contact sheet
Print one of each 5”x7”
Dry mount
Critique
Final