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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GRAPHIC ARTS
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 (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

Working with Brushes
Applying bushes to paths
Getting started
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 filing 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-thumbnail, rough draft, 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