

<b>DEPARTMENT: TECHNOLOGY EDUCATION</b>	<b>COURSE TITLE: COMPUTER GRAPHICS</b> <b>COURSE NUMBER: 580</b>
<b>GRADE(S): 9-12</b>	<b>PRE-REQUISITES (IF ANY):</b>

<b>UNIT</b>	<b>LENGTH</b>	<b>CONTENT</b>	<b>SKILLS</b>	<b>METHODS OF ASSESSMENT</b>	<b>FRAMEWORK STRAND(S) &amp; STANDARD(S)</b>
Review of Computer Skills	1 day	<ul style="list-style-type: none"> <li>Review of basic computer skills</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Identify and use basic features of computer operating system (e.g., format/initialize disks; access information on size and format of a file; create folders on a local hard drive)</li> </ul>	<ul style="list-style-type: none"> <li>Teacher observation and simulations</li> </ul>	ITRS (5-8) 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7  TRS (9-12) 1.1, 1.2, 1.3, 1.5, 1.6
Copyright and Privacy/ Ethical and Legal Issues	2 days	<ul style="list-style-type: none"> <li>Introduction of: Copyright and Privacy/ Ethical and Legal Issues</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Explain ethical and legal behavior in copying files, applications, and media</li> <li>Demonstrate a clear understanding of the school's Acceptable Use Policy</li> <li>Explain laws relating to copyright and Internet use</li> </ul>	<ul style="list-style-type: none"> <li>Quiz &amp; application of concepts in activities</li> </ul>	ITRS (5-8) 2.2 ITRS (9-12) 2.2, 2.3
Digital Images/ File Formats	2 days and ongoing	<ul style="list-style-type: none"> <li>Raster images vs. vector images</li> <li>GIFs, JPEGs, TIFFs, PSDs, AI</li> <li>Resolution</li> <li>Color</li> <li>File size</li> <li>Compression</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Compare and contrast various file formats and learn the correct use and application (print, web, multimedia) for each format</li> <li>Identify the difference between raster and vector images (resolution, color, file size)</li> </ul>	<ul style="list-style-type: none"> <li>Conversion of files to the proper format as an evaluation criteria for each project</li> </ul>	ITRS (5-8)1.6
Introduction to PhotoShop (Part 1)	2 days and ongoing	<ul style="list-style-type: none"> <li>PhotoShop Basics- Tool Bar Selection tools</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Student learn to identify and learn the functions of the tools located in PhotoShop's tool bar</li> <li>Students learn which tools should be used for different tasks</li> </ul>	<ul style="list-style-type: none"> <li>Activity involving the use of most of the tools, menus and pallets</li> <li>Demonstrated ability to use PhotoShop Tools, Menus, and Pallets</li> </ul>	
Introduction to PhotoShop (Part 2)	2 days and ongoing	<ul style="list-style-type: none"> <li>PhotoShop Basics- Menus</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Learn which menus should be used for different tasks</li> </ul>	<ul style="list-style-type: none"> <li>Activity involving the use of most of the tools, menus and pallets</li> <li>Demonstrated ability to use PhotoShop Tools, Menus, and Pallets</li> </ul>	

Introduction to PhotoShop (Part 3)	1 days and ongoing	<ul style="list-style-type: none"> <li>• PhotoShop Basics - Pallets</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Learn which pallets should be used for different tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Activity involving the use of most of the tools, menus and pallets</li> <li>• Demonstrated ability to use PhotoShop Tools, Menus, and Pallets</li> </ul>	<p>ITRS (9-12) 1.23 ITRS (5-8) 1.23</p>
Photo Retouching	3 days	<ul style="list-style-type: none"> <li>• Retouching a photograph that is torn, scratched, wrinkled, stained</li> <li>• Photo cropping</li> </ul>	<ul style="list-style-type: none"> <li>• Students apply what they know about PhotoShop tools, menus and pallets to repair a photograph that has been purposely damaged</li> <li>• Students learn to crop a photograph so that it is compositionally balanced</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of photo retouching project and adherence to assessment rubric (removal of scratches, red eye, stains and other photo manipulation, replacement of torn corner)</li> </ul>	
Graphic Design	4 days	<ul style="list-style-type: none"> <li>• Design and development of a Navigation Bar for a predetermined web site</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Apply what they know about PhotoShop tools, menus and pallets to design and produce a graphical navigation bar</li> </ul>	<ul style="list-style-type: none"> <li>• Design and production of Navigation Bar for web site</li> <li>• Adherence to Navigation Bar assessment rubric (use of color, proper resolution, use of filters, creativity, conversion to proper file format, legibility, etc.)</li> </ul>	<p>ITRS (9-12) 1.6, .1.23 ITRS (5-8) 1.23</p>
Animation/ Advertising	5 days	<ul style="list-style-type: none"> <li>• Identification of the number of frames in an existing banner ad</li> <li>• Animating moving objects</li> <li>• Animating filters in stages</li> <li>• Attracting attention</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Export visible layers as individual frames</li> <li>• Apply filters in stages</li> <li>• Use attention grabbing techniques</li> <li>• Use GIF animation software</li> <li>• Time the animation</li> </ul>	<ul style="list-style-type: none"> <li>• Animated Banner Ad project</li> <li>• Students critique and grade one another's projects according to assessment rubric (attention grabbing techniques, creativity, use of color, animation speed, legibility, filters, target audience)</li> </ul>	<p>ITRS (9-12) 1.6, .1.23 ITRS (5-8) 1.23</p>

Scanning/ Advertising	3 days	<ul style="list-style-type: none"> <li>• Mechanics of scanning</li> <li>• Resolution</li> <li>• Advertising appeals</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Use the scanner</li> <li>• Transform a photograph into an advertisement simply by adding a line or two of text</li> <li>• Connect external peripherals (e.g. printers, zip drives, scanner, digital camera) to a computer</li> </ul>	<ul style="list-style-type: none"> <li>• Magazine advertisement</li> <li>• Students critique each others assignments based on assessment rubric (appropriateness to target audience, application of advertising appeal, use of text)</li> </ul>	<p>ELA - 27.5</p> <p>ITRS (5-8) 1.4</p>
Color	2 days and ongoing	<ul style="list-style-type: none"> <li>• CMYK (subtractive, print-based) vs. RGB (additive, computer) color systems</li> <li>• Indexed color mode, web safe 256 colors</li> <li>• Grayscale</li> <li>• Color manipulation (<b>Image Menu</b> adjusting, replacing, brightness, contrast, levels, color levels)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Recognize CMYK (subtractive, print-based) vs. RGB (additive, computer) color systems, Indexed color mode, web safe 256 colors, grayscale, etc.</li> <li>• Manipulate color (replacing, brightness, contrast, levels, color levels)</li> </ul>	<ul style="list-style-type: none"> <li>• Application of knowledge to all projects (part of assessment rubric)</li> </ul>	
Introduction to PageMaker	2 days and ongoing	<ul style="list-style-type: none"> <li>• PageMaker: basic tools</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Learn to identify and learn the functions of the tools located in PageMaker's tool bar</li> <li>• Learn which tools should be used for different tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Comic strip placement exercise</li> </ul>	<p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>
Introduction to PageMaker	2 days and ongoing	<ul style="list-style-type: none"> <li>• Using the control pallet</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Identify the x/y coordinates of corners of shapes</li> <li>• Move images to specific locations</li> <li>• Crop using the control palette</li> <li>• Factor proportions</li> </ul>	<ul style="list-style-type: none"> <li>• Control pallet activity</li> </ul>	<p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>
Text and Formatting	2 days and ongoing	<ul style="list-style-type: none"> <li>• Fonts</li> <li>• Adobe and True Type fonts</li> <li>• Font sizes = points</li> <li>• Serif and sans serif fonts</li> <li>• Right align, left align, justify, force justify, center</li> <li>• Kerning, leading</li> <li>• Text wrapping</li> <li>• Indentation</li> <li>• Styles</li> <li>• Typing along a path</li> <li>• Hyphenation and orphans</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Learn how to manipulate and format text in each software application</li> <li>• Learn the strengths and limitations of text manipulation in each software application</li> </ul>	<ul style="list-style-type: none"> <li>• Proper use of text as part of assessment rubric for all projects</li> </ul>	<p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>

Page Layout	4 days	<ul style="list-style-type: none"> <li>Designing and laying out a two page color yearbook spread</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Resize images</li> <li>Use proper text style and size</li> <li>Import text from Microsoft Word</li> <li>Create a title in PhotoShop or Illustrator and importing into PageMaker</li> </ul>	<ul style="list-style-type: none"> <li>Yearbook layout assignment</li> <li>Adherence to assessment rubric (font size, spacing between elements, page numbers and folio text, cropping of photos, title designed in PhotoShop or Illustrator)</li> </ul>	<p>ELA 27.8</p> <p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>
Demographics and Target Audience	2 days and Ongoing	<ul style="list-style-type: none"> <li>Demographics and target audience</li> <li>Analysis of how magazine advertisements use composition, color, lighting, and text to evoke an emotion</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Learn to identify the audience of a project and modify the design elements to match the emotional and intellectual needs of that audience</li> <li>Learn how print/web serve as a vehicle for delivering commercial messages to target audiences</li> </ul>	<ul style="list-style-type: none"> <li>Psychographics Video and worksheet</li> <li>Cooperative learning magazine ad layout project</li> <li>Knowledge of target audiences</li> </ul>	<p>ELA-(9-10) 26.5</p>
Page Layout/ Advertising	3 days	<ul style="list-style-type: none"> <li>Layouts two pages of advertisements for a magazine with a specific target audience</li> <li>Target audience</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Place images</li> <li>Resize images</li> <li>Use guides and column guide</li> </ul>	<ul style="list-style-type: none"> <li>Application of knowledge of target audience and advertising</li> <li>Students critique and grade one another's projects</li> </ul>	<p>ELA 27.8</p> <p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>
Print based Publication	5 days	<ul style="list-style-type: none"> <li>Design and layout of a threefold color informational brochure</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Present information in a clear concise format</li> <li>Incorporate text, images and lines to inform a specific audience</li> <li>Accurately text wrapping, leading, spacing, font size and color</li> </ul>	<ul style="list-style-type: none"> <li>Threefold color brochure for a nonprofit organization</li> <li>Students critique and grade one another's projects based on agreed upon assessment rubric</li> </ul>	<p>ITRS (5-8) 1.7</p> <p>ITRS (9-12) 1.6, 1.8, 1.25</p>
Introduction to Adobe Illustrator	6 days	<ul style="list-style-type: none"> <li><i>Illustrator Basics Tool Bar</i></li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Learn to work with raster images and paths</li> <li>Learn to use Illustrator tools to create and modify paths and create simple illustrations</li> </ul>	<ul style="list-style-type: none"> <li>Ungraded Nike Swoosh exercise</li> <li>Ungraded smiley face exercise</li> <li>Graded ATI logo assignment (smoothness of curves, minimal number of anchor points, inclusion of all required elements)</li> </ul>	

Creating Complex Illustrations	4 days	<ul style="list-style-type: none"> <li>Tracing a raster image to create a vector illustration</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Use layers</li> <li>Draw with the pen tool</li> <li>Convert anchor points</li> </ul>	<ul style="list-style-type: none"> <li>Completion of Bart Simpson tracing assignment (smooth curves, minimal number of anchor points, similarity to original art work)</li> </ul>	
Creative use of text	3 days	<ul style="list-style-type: none"> <li>Design a holiday greeting card for a specific person</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Convert text to paths</li> <li>Create word illustrations</li> <li>Type along a path</li> <li>Type inside a shape</li> </ul>	<ul style="list-style-type: none"> <li>Word illustration assignment</li> <li>Greeting card assignment</li> <li>Students critique and grade one another's projects based on an agreed upon assessment rubric (appropriateness to target audience, creativity, use of color, use of text on</li> </ul>	
Introduction to Web Design	5 days	<ul style="list-style-type: none"> <li>Creation of a simple web site by adding text and images created in class</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Use web safe colors</li> <li>Demonstrate knowledge of web fonts</li> </ul>	<ul style="list-style-type: none"> <li>Web site graded by teacher</li> </ul>	<p>ELA (9-10) 26.5, ELA (11-12) 26.6, 27.8</p>