

High School Computer Illustration and Graphics

Students integrate visual arts techniques as well as elements and principles of design to develop graphic art

- 1 Identify and apply effective design solutions based on content [CIG-1.1](#)
- 2 Discuss the importance of proper research, brainstorming, and thumbnails [CIG-1.2](#)
- 3 Evaluate the aesthetics of graphic design [CIG-1.3](#)
- 4 Given the target audience, the student will be able to show the importance of assessment in the advertising media industry [CIG-1.4](#)
- 5 Explain the elements of visual design unique to the commercial art and graphic design [CIG-1.5](#)
- 6 List and describe the components of a design [CIG-1.6](#)
- 7 Apply brainstorming techniques to develop many possible solutions [CIG-1.7](#)
- 8 Explain the human, social and environmental issues that affect the design solutions [CIG-1.8](#)
- 9 Analyze ethical issues in choosing design solutions [CIG-1.9](#)
- 10 Analyze the effective use of symbols, elements, principles, and media using appropriate terminology [CIG-1.10](#)
- 11 Evaluate the effectiveness of elements and principles in other design solutions and use this evaluation toward personal work [CIG-1.11](#)

Students perform basic computer operation for use in computer graphics software

- 1 Navigate within the computer's operating environment [CIG-2.1](#)
- 2 Utilize the hardware components of the computer effectively [CIG-2.2](#)
- 3 Begin, define, and solve challenging visual problems, demonstrating skill and in-depth understanding of media and processes [CIG-2.3](#)
- 4 Integrate data from various software applications [CIG-2.4](#)
- 5 Access information using electronic sources [CIG-2.5](#)

6 Demonstrate basic knowledge of the Internet CIG-2.6

7 Distinguish among the various forms of intellectual property rights CIG-2.7

Students apply and adapt project management methodology to meet customer needs

1 Apply project management principles CIG-3.1

2 Evaluate project management methodologies CIG-3.2

3 Demonstrate monitoring of a project's progress CIG-3.3

4 Gather data and identify client requirements and scope of work CIG-3.4

5 Develop project concept proposal plan CIG-3.5

Students utilize digital image equipment and editing software to use in graphic design.

1 Identify standard hardware platform components and configurations CIG-4.1

2 Identify memory and storage requirements CIG-4.2

3 Identify computer architecture requirements for digital imaging CIG-4.3

4 Explain how a digital image is generated, archived, and managed CIG-4.4

5 Compare performance of different types of image acquisition hardware CIG-4.5

6. Operate digital imaging equipment and move images from equipment to computer software CIG-4.6

7 Apply image techniques that enhance the quality of an image or graphic CIG-4.7

Students create graphic products using desktop publishing software to understand publishing basics.

1 Evaluate the purposes, functions and features of desktop publishing software CIG-5.1

2 Demonstrate desktop publishing software skills CIG-5.2

3 Import, manipulate and integrate data and graphic images CIG-5.3

4 Apply principles and techniques of publication design and layout CIG-5.4

5 Apply knowledge of typography to enhance publications using different fonts, styles, attributes, justification, etc CIG-5.5

Students create layouts using design software to demonstrate knowledge of design

1 Integrate human factors and user interface in visual design CIG-6.1

2 Evaluate visual appeal of design CIG-6.2

3 Demonstrate knowledge of the principles and elements of design and their relationship to each other CIG-6.3

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- 4 Distinguish the differences in using a template verse a manual layout techniques** CIG-6.4

 - 5 Apply color theory for emotional impact** CIG-6.5

 - 6 Demonstrate knowledge of applying principles of basic composition** CIG-6.6

 - 7 Demonstrate basic technical art skills in both traditional and electronic forms** CIG-6.7

 - 8 Assess how the technical limitations of the medium affect content and style** CIG-6.8
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Students adapt and apply 2D and 3D skills to create animations.

- 1 Create 2D and 3D computer graphics** CIG-7.1

- 2 Evaluate visual appeal of design in computer graphics** CIG-7.2

- 3 Alter images using an image manipulation program** CIG-7.3

- 4 Integrate various special effects to images, graphics, typography, and photos** CIG-7.4

- 5 Utilize the basic principles of 2-D animation** CIG-7.5

- 6 Create real-time Virtual Reality Mark-up Language (VRML) 3-D animation** CIG-7.6

- 7 Explain how to convert objects from two-dimensional to three-dimensional** CIG-7.7

- 8 Compare/contrast flat shading, curved shading, ray tracing, and radiosity methods** CIG-7.8

- 9 Follow basic animation principles** CIG-7.9

- 10 Demonstrate knowledge of virtual environment** CIG-7.10