Indiana Department of Education
Academic Standards Course Framework

COMPUTER ILLUSTRATION AND GRAPHICS

Computer Illustration and Graphics introduces students to the computer's use in visual communication. The focus of the course is on basic computer terminology and use, mastering fundamental skills, and developing efficient working styles. These skills are then developed by creating work with imaging, drawing, interactive, and page layout software. The course includes organized learning experiences that incorporate a variety of visual art techniques as they relate to the design and execution of layouts and illustrations for advertising, displays, promotional materials, and instructional manuals. This course also covers advertising theory and preparation of copy, lettering, posters, produce vector illustrations, graphics and logos, and artwork in addition to incorporation of photographic images. Communication skills will be emphasized through the study of effective methods used to design products that impart information and ideas. Advanced instruction might also include experiences in silk screening and air brush techniques as well as activities in designing product packaging and commercial displays or exhibits.

- DOE Code: 4516
- Recommended Grade Level: 11, 12
- Recommended Prerequisite: Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

Dual Credit
This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

Application of Content and Multiple Hour Offerings
Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

Career and Technical Student Organizations (CTSOs)
Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in Business Professional of America, DECA, or Future Business Leaders of America are the CTSO for this area.

Content Standards

Domain – Visual Art
Core Standard 1 Students integrate visual arts techniques, as well as, elements and principles of design to develop graphic art.

Standards

CIG-1.1 Identify and apply effective design solutions based on content

CIG-1.2 Discuss the importance of proper research, brainstorming, and thumbnails

CIG-1.3 Evaluate the aesthetics of graphic design

CIG-1.4 Given the target audience, the student will be able to show the importance of assessment in the advertising media industry

CIG-1.5 Explain the elements of visual design unique to the commercial art and graphic design

CIG-1.6 List and describe the components of a design

CIG-1.7 Apply brainstorming techniques to develop many possible solutions

CIG-1.8 Explain the human, social and environmental issues that affect the design solutions

CIG-1.9 Analyze ethical issues in choosing design solutions

CIG-1.10 Analyze the effective use of symbols, elements, principles, and media using appropriate terminology

CIG-1.11 Evaluate the effectiveness of elements and principles in other design solutions and use this evaluation toward personal work

Domain – Computer basics

Core Standard 2 Students perform basic computer operation for use in computer graphic software.

Standards

CIG-2.1 Navigate within the computer's operating environment

CIG-2.2 Utilize the hardware components of the computer effectively

CIG-2.3 Begin, define, and solve challenging visual problems, demonstrating skill and in-depth understanding of media and processes

CIG-2.4 Integrate data from various software applications

CIG-2.5 Access information using electronic sources

CIG-2.6 Demonstrate basic knowledge of the Internet

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

Domain – Project Management

Core Standard 3 Students apply and adapt project management methodology to meet customer needs.

Standards

CIG-3.1 Apply project management principles

CIG-3.2 Evaluate project management methodologies

CIG-3.3 Demonstrate monitoring of a project's progress

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

CIG-3.5 Develop project concept proposal plan

Domain – Digital Images

Core Standard 4 Students utilize digital image equipment and editing software to use in graphic design.

Standards

CIG-4.1 Identify standard hardware platform components and configurations

CIG-4.2 Identify memory and storage requirements

CIG-4.3 Identify computer architecture requirements for digital imaging

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

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

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

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

Domain – Desktop Publishing

Core Standard 5 Students create graphic products using desktop publishing software to understand publishing basics.

Standards

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

CIG-5.2 Demonstrate desktop publishing software skills

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

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

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

Domain – Design and Layout

Core Standard 6 Students create layouts using design software to demonstrate knowledge of design.

Standards

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

CIG-6.2 Evaluate visual appeal of design

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

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

CIG-6.5 Apply color theory for emotional impact

CIG-6.6 Demonstrate knowledge of applying principles of basic composition

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

CIG-6.8 Assess how the technical limitations of the medium affect content and style

Domain – 2D and 3D Animation

Core Standard 7 Students adapt and apply 2D and 3D skills to create animations.

Standards

CIG-6.1 Create 2D and 3D computer graphics

CIG-6.2 Evaluate visual appeal of design in computer graphics

CIG-6.3 Alter images using an image manipulation program

CIG-6.4 Integrate various special effects to images, graphics, typography, and photos

CIG-6.5 Utilize the basic principles of 2-D animation

CIG-6.6 Create real-time Virtual Reality Mark-up Language (VRML) 3-D animation

CIG-6.7 Explain how to convert objects from two-dimensional to three-dimensional

CIG-6.8 Compare/contrast flat shading, curved shading, ray tracing, and radiosity methods

CIG-6.9 Follow basic animation principles

CIG-6.10 Demonstrate knowledge of virtual environment