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-7.1 Create 2D and 3D computer graphics
CIG-7.2 Evaluate visual appeal of design in computer graphics
CIG-7.3 Alter images using an image manipulation program
CIG-7.4 Integrate various special effects to images, graphics, typography, and photos
CIG-7.5 Utilize the basic principles of 2-D animation
CIG-7.6 Create real-time Virtual Reality Mark-up Language (VRML) 3-D animation
CIG-7.7 Explain how to convert objects from two-dimensional to three-dimensional
CIG-7.8 Compare/contrast flat shading, curved shading, ray tracing, and radiosity methods
CIG-7.9 Follow basic animation principles
CIG-7.10 Demonstrate knowledge of virtual environment