

***Graphic Design
Program of Study with
Complementary Course Standards***



This document was prepared by:

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Vision
All Nevada students are equipped and feel empowered to attain their vision of success

Mission

To improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence



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Standards Development Members

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Business and Industry Validation

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives, or (2) a separate review panel is coordinated with industry experts to ensure the standards include the proper content, or (3) nationally recognized standards currently endorsed by business and industry.

The Graphic Design standards were validated through active participation of business and industry representatives on the development team.

Introduction

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of a high school Graphic Design program. These standards are designed for a two-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

- **Content Standards** are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.
- **Performance Standards** follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.
- **Performance Indicators** are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives. The indicators are followed by designations that reflect the course sequence (e.g., L1 for the first-year course of a two-year program and L2 for the second-year course, C is to designate the indicators to be taught in the complementary courses) as referenced in the Core Course Sequence table.

The crosswalks and alignments are located in the Program Supplemental Program Resources document. These will show where the performance indicators support the Nevada Academic Content Standards. For individual course descriptions, please reference the Supplemental Program Resource or the Nevada CTE Catalog.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to the Graphic Design program. CTOS are co-curricular national organizations that directly reinforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTOS provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the skills needed to be successful in all careers and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

The **Standards Reference Code** is only used to identify or align performance indicators listed in the standards to daily lesson plans, curriculum documents, or national standards. The Standards Reference Code is an abbreviated name for the program, and the content standard, performance standard and performance indicator are referenced in the program standards. This abbreviated code for identifying standards uses each of these items. For example, GRA is the Standards Reference Code for Graphic Design. For Content Standard 2, Performance Standard 3 and Performance Indicator 4 the Standards Reference Code would be GRA.2.3.4.

Graphic Design

Program Information

Program of Study: Graphic Design
Standards Reference Code: GRA
Career Cluster: Arts, A/V Technology and Communications
Career Pathway(s): Visual Arts
Program Length: 2-year, completed sequentially
CTSO: SkillsUSA

Program Structure Required Program of Study Courses

The core course sequencing is provided in the following table. Complementary Courses are available and provided later in this document. The following courses provide a completed program of study. The Lab is a complementary course available concurrently with the Graphic Design II course.

Core Course Sequence (R) with Lab Course(s) (C)

Required/ Complementary	Course Title	Abbreviated Name
R	Graphic Design I	GRAPHIC DESG I
R	Graphic Design II	GRAPHIC DESG II
C	Graphic Design II LAB	GRAPHIC DESG II L

CONTENT STANDARD 1.0: INTEGRATE CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSOs)**Performance Standard 1.1: Explore the History and Organization of CTOSs**

- 1.1.1 Discuss the requirements of CTSO participation/involvement as described in Carl D. Perkins Law (Level 1 (L1), Level 2 (L2), Complementary, (C))
- 1.1.2 Research nationally recognized CTOSs (L1, L2, C)
- 1.1.3 Investigate the impact of federal and state government regarding the progression and operation of CTOSs (e.g., Federal Statutes and Regulations, Nevada Administrative Code [NAC], Nevada Revised Statutes [NRS]) (L1, L2, C)

Performance Standard 1.2: Develop Leadership Skills

- 1.2.1 Discuss the purpose of parliamentary procedure (L1, L2, C)
- 1.2.2 Demonstrate the proper use of parliamentary procedure (L1, L2, C)
- 1.2.3 Differentiate between an office and a committee (L1, L2, C)
- 1.2.4 Discuss the importance of participation in local, regional, state, and national conferences, events, and competitions (L1, L2, C)
- 1.2.5 Participate in local, regional, state, or national conferences, events, or competitions (L1, L2, C)
- 1.2.6 Describe the importance of a constitution and bylaws to the operation of a CTSO chapter (L1, L2, C)

Performance Standard 1.3: Participate in Community Service

- 1.3.1 Explore opportunities in community service-related work-based learning (WBL) (L1, L2, C)
- 1.3.2 Participate in a service learning (program related) and/or community service project or activity (L1, L2, C)
- 1.3.3 Engage with business and industry partners for community service (L1, L2, C)

Performance Standard 1.4: Develop Professional and Career Skills

- 1.4.1 Demonstrate college and career readiness (e.g., applications, resumes, interview skills, presentation skills) (L1, L2, C)
- 1.4.2 Describe the appropriate professional/workplace attire and its importance (L1, L2, C)
- 1.4.3 Investigate industry-standard credentials/certifications available within this Career Cluster™ (L1, L2, C)
- 1.4.4 Participate in authentic contextualized instructional activities (L1, L2, C)
- 1.4.5 Demonstrate technical skills in various student organization activities/events (L1, L2, C)

Performance Standard 1.5: Understand the Relevance of Career and Technical Education (CTE)

- 1.5.1 Make a connection between program standards to career pathway(s) (L1, L2, C)
- 1.5.2 Explain the importance of participation and completion of a program of study (L1, L2, C)
- 1.5.3 Promote community awareness of local student organizations associated with CTE programs (L1, L2, C)

CONTENT STANDARD 2.0: DEMONSTRATE KNOWLEDGE OF THE GRAPHICS INDUSTRY

Performance Standard 2.1: Demonstrate Knowledge of the History of the Graphic Design Field

- 2.1.1 Research historical technologies that advanced graphic design (L1)
- 2.1.2 Describe past, present, and future styles in the graphic design field (L1)
- 2.1.3 Identify art movements that impacted graphic design (L1)
- 2.1.4 Describe the importance of culture and society on graphic design's relationship with and impact on audiences (L1)

Performance Standard 2.2: Communicate Ideas Using Appropriate Industry Terminology

- 2.2.1 Formulate written and verbal communications using industry standard terms (L1)
- 2.2.2 Prepare and present a visual presentation utilizing appropriate industry terminology (L1)

Performance Standard 2.3: Demonstrate Knowledge of Career Pathways

- 2.3.1 Research various careers in the graphic design and related industries (L1)
- 2.3.2 Prepare and present a visual presentation about a career opportunity (L1)

CONTENT STANDARD 3.0: DEMONSTRATE KNOWLEDGE OF ETHICAL AND LEGAL ISSUES RELATED TO GRAPHIC DESIGN**Performance Standard 3.1: Demonstrate Knowledge of Copyright and Intellectual Property Law**

- 3.1.1 Research laws governing copyright, intellectual property (including font usage, photography, image, illustration, audio and video rights), and software licensing (L1)
- 3.1.2 Research laws governing brand issues, trademark, and other proprietary rights (L1)
- 3.1.3 Discuss consequences of violating copyright, privacy, and data security laws (L1)
- 3.1.4 Define and debate fair use, including authorships, rights of use for work and likeness, and credit lines (L1)
- 3.1.5 Model fair use in production of graphic works (L1, L2)

Performance Standard 3.2: Demonstrate Ethical Behavior as it Relates to the Industry

- 3.2.1 Research and discuss censorship as it applies to the graphic design industry (L2)
- 3.2.2 Research the purpose of non-disclosure agreements (NDA) (L2)
- 3.2.3 Incorporate cultural sensitivity and diversity awareness into the design process (L1)
- 3.2.4 Debate legal versus ethical behaviors (L1, L2)
- 3.2.5 Incorporate ethical behaviors in graphic projects (L1)

CONTENT STANDARD 4.0: APPLY ELEMENTS AND PRINCIPLES OF DESIGN TO COMMUNICATE VISUALLY**Performance Standard 4.1: Identify and Apply the Design Process**

- 4.1.1 Explain the design process (L1)
- 4.1.2 Apply the design process to generate graphic works (L1, L2)

Performance Standard 4.2: Identify and Apply the Elements of Design

- 4.2.1 Identify the applications of color, line, shape, texture, size, and value in samples of graphic work (L1)
- 4.2.2 Analyze the use of color, line, shape, texture, size, and value in samples of graphic work (L1, L2)
- 4.2.3 Incorporate color, line, shape, texture, size, and value in student-generated graphic work (L1, L2)
- 4.2.4 Demonstrate the elements of design through manual and digital sketching (L1, L2)

Performance Standard 4.3: Identify and Apply the Principles of Design

- 4.3.1 Identify the principles of balance, contrast, alignment, rhythm, repetition, movement, harmony, emphasis, and unity in samples of graphic works (L1)
- 4.3.2 Analyze the principles of balance, contrast, alignment, rhythm, repetition, movement, harmony, emphasis, and unity in samples of graphic works (L1, L2)
- 4.3.3 Incorporate principles of balance, contrast, alignment, rhythm, repetition, movement, harmony, emphasis, and unity in student-generated graphic works (L1, L2)
- 4.3.4 Demonstrate the principles of design through various drawing techniques (L1, L2)

Performance Standard 4.4: Identify and Apply the Principles of Typography

- 4.4.1 Identify the anatomical components and qualities of type (i.e., x-height, ascenders, descenders, counters) (L1)
- 4.4.2 Identify the different classifications and styles of type (L1)
- 4.4.3 Apply and adjust formatting to type (i.e., style, size, hierarchy, spacing, alignment, color, value) (L1, L2)
- 4.4.4 Construct graphic works utilizing and manipulating type to convey a message based on media requirements (L1, L2)

Performance Standard 4.5: Apply the Principles and Elements of Design to Layout

- 4.5.1 Apply effective use of negative space, composition, message structure, graphics, etc., to graphic works (L1, L2)
- 4.5.2 Create graphic works utilizing grids (L1, L2)
- 4.5.3 Create graphic works utilizing templates (L1, L2)
- 4.5.4 Demonstrate layout skills for print collaterals (i.e., business cards, newspapers, packaging) (L1, L2)
- 4.5.5 Demonstrate layout skills for digital media (i.e., websites, mobile apps, video games) (L1, L2)
- 4.5.6 Explain the importance of user interface/user experience (UI/UX) in design (L1)
- 4.5.7 Analyze samples of works to evaluate UI/UX design (L2)
- 4.5.8 Explain the importance of consistency of design (L1)
- 4.5.9 Explain the importance of usability (L1)
- 4.5.10 Explain the importance of core messaging and branding identity (L1)
- 4.5.11 Apply measurement tools and ratio analysis to image positioning in graphic works (L1, L2)
- 4.5.12 Solve aspect ratio proportion measurement in video and animation development (L2)

CONTENT STANDARD 5.0: DEMONSTRATE KNOWLEDGE OF THE KEY ASPECTS OF PRODUCTION USING INDUSTRY STANDARD SOFTWARE**Performance Standard 5.1: Demonstrate Knowledge of Concept Development**

- 5.1.1 Identify the client needs for design projects to determine concept development (L1, L2)
- 5.1.2 Research the needs and challenges of the design problem (L1, L2)
- 5.1.3 Generate project ideas through the use of storyboard, thumbnails, roughs, mock-ups, wireframes, etc. (L1, L2)

Performance Standard 5.2: Demonstrate Knowledge of Image Creation and Manipulation

- 5.2.1 Analyze differences and appropriate applications of vector-based and bitmap images (L1, L2)
- 5.2.2 Research different ways to acquire source images (e.g., taking own photos, downloading images) (L1)
- 5.2.3 Use a variety of input devices to import photos, images, and other content (L1, L2)
- 5.2.4 Incorporate the use of image manipulation and illustration software into final products (L2)
- 5.2.5 Apply nondestructive image editing techniques such as layering and masking (L2)
- 5.2.6 Practice using different selection tools and techniques to manipulate images (L2)

Performance Standard 5.3: Demonstrate Applications of Media Outputs

- 5.3.1 Use appropriate resolution, compression, and file formats for various media outputs, including web, video, print, and motion (L1)
- 5.3.2 Incorporate appropriate color modes in graphic works, including but not limited to RGB and CMYK (L1)

Performance Standard 5.4: Demonstrate Knowledge of the Graphic Design Workflow to Increase Success and Productivity

- 5.4.1 Develop a workflow for a project (L1)
- 5.4.2 Produce correct file naming and file management for projects based on media requirements (L1)
- 5.4.3 Synthesize information collected from communications with various stakeholders (L2)
- 5.4.4 Integrate project specifications for effective project workflow (L2)
- 5.4.5 Create projects that define core message (L2)

Performance Standard 5.5: Demonstrate Knowledge of the Process and Design of Infographics

- 5.5.1 Evaluate infographics for effective communication and balance of visuals (L1)
- 5.5.2 Organize data for proper visualization (L2)
- 5.5.3 Compress data for use in a simple narrative (L2)
- 5.5.4 Create graphics linking visuals to data (L2)

CONTENT STANDARD 6.0: CREATE AND MAINTAIN A PERSONAL PORTFOLIO**Performance Standard 6.1: Create and Maintain a Personal Portfolio**

- 6.1.1 Research and compare the various types of personal portfolios (L1, L2)
- 6.1.2 Develop graphics portfolios that include traditional and digital works (L1, L2)
- 6.1.3 Recognize that portfolios are dynamic and require maintenance (L1, L2)

Performance Standard 6.2: Demonstrate the Process of Evaluating Portfolios

- 6.2.1 Conduct peer and self-evaluations using rubrics (L1, L2)
- 6.2.2 Understand the elements of the critique process, including a respect for peer work and the ability to give and receive dispassionate criticism (L2)
- 6.2.3 Revise portfolio based on critique and growth (L2)

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Complementary Courses

State Complementary Skill Standards

State complementary skill standards are designed to clearly state what the student should know and be able to do upon completion of a **one-year** complementary course related to their career and technical education (CTE) program of study. **Completion of the qualifying Program of Study is required prior to enrollment in a complementary course.**

Employability Skills for Career Readiness Standards

Students have completed all program content standards and will pursue advanced study through investigation and in-depth research.

Complementary Course Standards Contributing Members

Course Contribution(s)	Name	Occupation/Title	Stakeholder Affiliation	School/Organization
2D Animation	James Black	Instructor	Secondary Educator	Desert Pines High School, Las Vegas, NV
2D Animation	Monte Carman	Director and Instructor	Secondary Educator	Southwest Career and Technical Academy, Las Vegas, NV
2D Animation	Kevin Kirk	Instructor	Secondary Educator	Clark High School, Las Vegas, NV
2D Animation	Rory Olvina	CTE Strategist	Secondary Educator	Southwest Career and Technical Academy
2D Animation	Ashley Stroud	Instructor	Secondary Educator	Las Vegas Academy of the Arts, Las Vegas, NV

Business and Industry Validation

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The 2D Animation complementary standards for the Graphic Design program of study were validated through active participation of business and industry representatives on the development team.

Complementary Course Information for Graphic Design

Program Information

Qualifying Program of Study: Graphic Design

Career Cluster: Arts, A/V Technology and Communications

Career Pathway(s): Visual Arts

CTSO: SkillsUSA

Grade Level: 11-12

Program Structure for Complementary Courses

The complementary courses are provided in the following table. **The qualifying program of study must be completed prior to enrolling in the complementary course(s)** (except labs that are done concurrently with the second-year course). A program does not have to utilize the complementary courses for students to complete their program of study.

Complementary Course(s)

Required/ Complementary	Course Title	Abbreviated Name
C	2D Animation	2D ANIMATE
C	Graphic Design Advanced Studies	GRAPHIC DESG AS
C	Industry-Recognized Credential – Graphic Design	IRC GRAPHIC DESG
C	CTE Work Experience – Arts, A/V Technology and Communication	WORK EXPER TECH

Complementary Course Standards

2D Animation

CONTENT STANDARD 1.0: THE FIELD OF ANIMATION

Performance Standard 1.1: Purposes and Uses of Animation

- 1.1.1 Research careers in animation
- 1.1.2 Describe trends in animation
- 1.1.3 Explain types of animation (i.e., traditional, stop motion, motion graphic, computer-generated imagery [CGI], and interface animation)

Performance Standard 1.2: Communicate Ideas Using Appropriate Industry Terminology

- 1.2.1 Formulate written communications using industry terminology
- 1.2.2 Practice verbal communication using industry terminology
- 1.2.3 Prepare and deliver a visual presentation utilizing appropriate industry terminology

Performance Standard 1.3 Apply the Animation Production Process

- 1.3.1 Summarize the general production process
- 1.3.2 Practice the production process
- 1.3.3 Manage production assets
- 1.3.4 Practice time management to meet production deadlines
- 1.3.5 Model fair use in production of animated works

CONTENT STANDARD 2.0: PRE-PRODUCTION

Performance Standard 2.1: Implement Concept Development Practices

- 2.1.1 Practice brainstorming and ideation to develop a concept
- 2.1.2 Conduct visual research to provide reference for a project
- 2.1.3 Produce thumbnails, roughs, and comprehensive layouts for presentation
- 2.1.4 Design and develop environments
- 2.1.5 Design and develop 2D animated assets and characters

Performance Standard 2.2: Demonstrate Knowledge of Visual Design

- 2.2.1 Apply the elements and principles of design
- 2.2.2 Apply the twelve principles of animation
- 2.2.3 Explain the role of visual language in an animation project
- 2.2.4 Apply the principles of animation to create animated sequences

Performance Standard 2.3: Create Storyboards

- 2.3.1 Illustrate actions with sequential panels
- 2.3.2 Evaluate and revise storyboards for effectiveness and feasibility
- 2.3.3 Describe appropriate camera placement for shot composition

CONTENT STANDARD 3.0: 2D ANIMATION TECHNIQUES

Performance Standard 3.1: Apply Methodologies of 2D Animation

- 3.1.1 Apply straight ahead and pose to pose techniques
- 3.1.2 Apply keyframing, tweens, and breakdowns
- 3.1.3 Simulate a naturally occurring or mechanical cycle/loop

Performance Standard 3.2: Perform Motion Design

- 3.2.1 Demonstrate an object following a path
- 3.2.2 Apply masking techniques
- 3.2.3 Simulate depth
- 3.2.4 Implement camera settings (depth of field, focal length, etc.)
- 3.2.5 Create lighting
- 3.2.6 Animate kinetic typography
- 3.2.7 Practice particle systems and visual effects
- 3.2.8 Implement motion tracking
- 3.2.9 Coordinate animated objects to sound

Performance Standard 3.3: Create character animation

- 3.3.1 Design a character
- 3.3.2 Create rigging for characters (parent/child, joint/bone chain, etc.)
- 3.3.3 Practice lip sync with audio

CONTENT STANDARD 4.0: POST-PRODUCTION

Performance Standard 4.1: Create Final Output

- 4.1.1 Demonstrate editing and compositing techniques
- 4.1.2 Select and render appropriate format for distribution
- 4.1.3 Conduct peer and self-evaluations using rubrics