

# Arts & Communication

## Career Field Technical Content Standards



**Department of  
Education &  
Workforce**

# Foreword

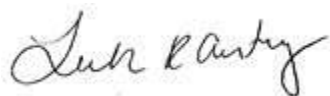
The Career Field Technical Content Standards serve as the curricular framework for Ohio's career-technical education pathway programs as outlined in Ohio Administrative Code 3301-61-03 (Criteria for Secondary Workforce Development Programs).

Career Field Technical Content Standards outline the knowledge and skills needed for success in careers across multiple pathways. Validated by Ohio business and industry representatives in conjunction with Ohio educators, these standards form the basis for developing educational programming in Ohio secondary schools. The standards also serve as the framework for developing strong career pathways that connect secondary education with postsecondary education systems and the workplace.

This version of Career Field Technical Content Standards is intended to support the ongoing evolution of career technical education pathway programs. The standards tend to be somewhat broader than previous versions and are not repeated for individual pathways or occupational areas. The broader and non-duplicated statements are intended to capture the knowledge and skills that can be applied across any number of occupations in a pathway rather than focusing on the requirement of a single occupation. After all, the intent of a pathway program is to prepare a student for a range of educational and career opportunities following high school.

Pathway programs prepare students to combine broad knowledge, insight and understanding of business processes, academic attainment, and workplace readiness with depth of knowledge and expertise in a technical area. Knowing that many careers will require some level of postsecondary education, the content standards also delineate the knowledge and skills necessary to seamlessly transition to postsecondary educational programs.

This document seeks to provide the basis for educational programming that will provide the employee with fundamental skill sets that employers demand. This ensures that Ohio's workforce of tomorrow is competitive in a global environment. An environment that requires knowledge and skills can be applied in a broader context, aimed at innovation to support new products and services in an ever-changing economy.



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Further acknowledgement is due to:

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Those listed above provided vision and implementation support for the Arts & Communication Career Field Technical Content Standards and Ohio's Arts & Communication educational programs.

# Philosophy and Principles for Implementation

## Ohio Career Field Initiative

The overarching framework for Ohio career-technical education is outlined in the Ohio Revised Code and subsequent administrative rules, which specify career-technical programming based on 16 career fields. These 16 fields provide the framework for an Ohio career field initiative that seeks to foster the educational shift necessary to respond to the needs of a rapidly changing global environment.

A career field is a “group of occupations and broad industries based on common characteristics”. Career fields are the basis for developing both broad and specialized technical content standards that serve as a framework for curriculum, instruction, assessment, and program design, addressing the needs of an entire industry and business sector. Ohio’s 16 career fields align with national efforts to broaden career-technical education, integrate career-technical with academic study and reflect the workforce needs of today and tomorrow. For today’s students to be adequately prepared for tomorrow’s workforce, they must have an education that:

- ***Incorporates a broad, long-term conception of work in combination with the depth of specialization skills;***
  - Employees need a comprehensive understanding beyond a single occupational area. Career- technical programming needs to be provided in a larger context, so students can generalize learning, make connections between education and work and adapt to changes in their careers. Workplace knowledge and skills are needed to prepare employees for collaborating and problem solving while contributing to the broader business process.
- ***Emphasizes the acquisition of strong academic knowledge and skills; and***
  - Academic skills provide the foundation for career success. The integration of academic content standards with career field technical content standards helps to contextualize learning for students, making English language arts, mathematics, social studies and science relevant to students as a means to an important end—success at work and in life.
- ***Facilitates high-school-to-postsecondary transitions.***
  - A lifetime of change means a lifetime of learning, including postsecondary education. Students need knowledge and skills for success in a variety of postsecondary options, including apprenticeships, industry credentialing through adult education, two- and four-year college degree programs and graduate school.

# Career Pathways

A key component of the [Ohio Career Field Initiative](#) is a career pathway, which is a coherent, articulated sequence of rigorous academic and career-technical coursework commencing in the ninth grade and leading to an associate degree, baccalaureate degree and beyond—an industry-recognized certificate and/or licensure. Pathways facilitate a seamless transition from high school to postsecondary education (including apprenticeships, adult education, two- and four-year colleges and graduate school) and from postsecondary education to the workplace. The career pathway is developed, implemented, and maintained in partnership among secondary and postsecondary education, business, and employers. Career pathways are available to all students, including adult learners, and lead to rewarding careers.

To effectively facilitate the transition from secondary to postsecondary education and a career, high school career pathways should encompass:

- Challenging technical coursework in a chosen career field based on career field technical content standards;
- Rigorous academics that meet Ohio’s academic content standards and grade-level expectations;
- Electives that relate to career objectives;
- Instructional enhancements such as experiential and authentic learning opportunities (e.g., work-based learning, mentorships, internships) and career-technical student organization participation;
- Opportunities (when appropriate) for program and student certification and licensure;
- Preparation for transition to further study that includes college readiness and opportunities to earn college credit while in high school;
- Preparation for transition to employment with advancement opportunities;
- Performance targets that include high school academic and technical testing/exit and postsecondary entry/placement requirements;
- Various sector(s) within an industry or encompass a function that crosses industry sectors;
- The scope of opportunities in the related industry and available college programs;
- Opportunities to prepare for a range of careers, including
  - multiple employment opportunities after high school and
  - opportunities for students to enter and succeed in postsecondary and continuing education programs;
- Transferable skills required for employment in the range of occupations aligned to the pathway; and
- Opportunities to learn skills across the pathway as well as in specialized areas.

# Structure and Format

The Career Field Technical Content Standards document is composed of a series of strands comprised of outcomes that each contain a set of competencies.

- A strand is a large content area under which multiple outcomes are organized, regardless of the pathway. It includes a title and a concise description with statements that capture multiple, broad areas of learner knowledge and skills expected across all outcomes in the strand. There are approximately six strands of content per career field. Strand 1, Business Operations/21<sup>st</sup> Century Skills (employability skills, leadership and communications, business ethics and law, knowledge management and information technology, global environment, business literacy, entrepreneurship/entrepreneurs, operations management, financial management, sales and marketing and principles of business economics), is the same for all career-technical education career fields.
- An outcome is an overarching statement that summarizes the knowledge and skills described in a set of individual competencies to be learned by the end of the 12<sup>th</sup> grade. There are usually 5–15 outcomes within a strand, depending on the breadth of content to be addressed.
- Competency is a specific statement of essential knowledge or skill to be learned in the pathway program. There are usually 5–12 competencies under an outcome.

Each set of outcomes and competencies is included in one or more pathways in the career field. Outcomes and competencies form the basis for developing secondary courses, programs, instruction and assessment, facilitating transition from one educational level to the next and to the workplace. This supports career readiness and long-term career success by:

- Providing the basis for effective collaboration, teamwork and communication across pathways;
- Laying the groundwork for successful transfer of knowledge and skills across pathways, thereby facilitating horizontal and vertical career success; and
- Equipping students and workers with the skills needed to transition to new and emerging careers throughout a working lifetime.

All outcomes and competencies in the Career Field Technical Content Standards have been verified as essential by business and labor representatives within the pathway or pathways specified. These essential outcomes and competencies specify industry-based knowledge or hands-on skills that CTE students need by the end of the 12<sup>th</sup> grade to be successful in their selected career pathway and on-going learning (such as college, apprenticeships and military opportunities).

# Development of Career Field Technical Content Standards

The process for the development of the Arts & Communication Career Field Technical Content Standards began in February of 2023 and culminated in September of 2024. Over the course of 2023-2024, numerous business and industry representatives as well as secondary and postsecondary educators from across the state of Ohio took part in the formal development process. The following summarizes the various stages of the development process.

## Business and Industry Futuring Panels

Beginning in August 2023, the Arts & Communication futuring panels brought together key business and industry representatives from across the state to advise the Ohio Department of Education and Workforce on trends impacting the Arts & Communications industries. The participants were asked to share their perceptions on changes in the workplace, employment trends, changes in technical skill requirements, needed workplace readiness skills and available industry-recognized standards and credentials. This feedback was used to develop and streamline the standards document into what is most demanded by the labor market.

In November 2023, a diverse group of Ohio business and industry representatives participated in panels to validate and rate the importance of the work-related competencies in the draft standards document. Drawn from various sectors and regions of the state, the panels identified what employees should know and be able to do in the Information Technology pathways. Secondary and post-secondary education representatives participated on the panels to gain an understanding of the standards development process as well as to provide their perspective to the business representatives, when needed.

## Post-Secondary Alignment

The goal of the Secondary Career-Technical Alignment Initiative (SCTAI) was to develop new statewide [Career-Technical Assurance Guides \(CTAGs\)](#) for secondary career-technical institutions using the combined process of the Ohio Board of Regents' CTAG development process with the Ohio Department of Education's Career Field Technical Content Standards development process. The result of this collaboration was a tighter alignment between secondary career-technical and postsecondary content and the development of pathways that encourage college-going and increase statewide postsecondary options for career technical students.

# Futuring Panel Contributors

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# Career Pathways Definitions

The Arts & Communication Career Field prepares students for careers Media Arts, Performing Arts, and Visual Design & Imaging.

## **MEDIA ARTS**

Media Arts program areas prepare students for careers in various fields of communication such as journalism, commercial photography, and film. Students gain the necessary technical and academic skills to develop and distribute mass media content.

### **Careers for which this pathway prepares students include:**

Technical Writer/Editor  
Announcer  
Reporter/Journalist  
Photographer  
Videographer  
Audio Engineer  
Content Strategist

### **Postsecondary majors for which this pathway prepares students include:**

Advertising  
Communication  
Journalism  
Photography  
Writing  
Film Studies  
Videography  
Public Relations / Image Management  
Social Media

## PERFORMING ARTS

Performing Arts program areas prepare students for careers in theater, music, dance, and entertainment. Students gain the necessary technical and academic skills to support production and delivery of an artistic performance.

### **Careers for which this pathway prepares students include:**

Playwright  
Choreographer  
Actor  
Singer  
Dancer  
Set Designer  
Producer  
Promoter  
Business Manager

### **Postsecondary majors for which this pathway prepares students include:**

Acting  
Playwriting and Screenwriting  
Technical Theatre  
Musical Theatre  
Arts Administration

## VISUAL DESIGN

Visual Design programs prepare students for careers in graphic, digital, and print production. Students gain the necessary technical and academic skills to create online and tactile designs and produce two-dimensional and three-dimensional products.

### **Careers for which this pathway prepares students include:**

Graphic Designer  
Industrial Designer  
Animator  
Technical Illustrator  
Printing Press Technician

### **Postsecondary majors for which this pathway prepares students include:**

Visual Communications  
Commercial Art  
Graphic Design  
Animation  
Industrial and Product Design  
Advertising



# **Arts & Communication Content Standards 1-7**

## Strand 1. Business Operations/21<sup>st</sup> Century Skills

Learners apply principles of economics, business management, marketing and employability in an entrepreneur, manager and employee role to the leadership, planning, developing and analyzing of business enterprises related to the career field.

### **Outcome: 1.1. Employability Skills**

Develop career awareness and employability skills (e.g., face-to-face, online) needed for gaining and maintaining employment in diverse business settings.

### **Competencies**

- 1.1.1. Identify the knowledge, skills and abilities necessary to succeed in careers.
- 1.1.2. Identify the scope of career opportunities and the requirements for education, training, certification, licensure and experience.
- 1.1.3. Develop a career plan that reflects career interests, pathways and secondary and post-secondary options.
- 1.1.4. Describe the role and function of professional organizations, industry associations and organized labor and use networking techniques to develop and maintain professional relationships.
- 1.1.5. Develop strategies for self-promotion in the hiring process (e.g., filling out job applications, resumé writing, interviewing skills, portfolio development).
- 1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community, and workplace roles.
- 1.1.7. Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions.
- 1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.
- 1.1.9. Give and receive constructive feedback to improve work habits.
- 1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.
- 1.1.11. Recognize different cultural beliefs and practices in the workplace and demonstrate respect for them.
- 1.1.12. Identify healthy lifestyles that reduce the risk of chronic disease, unsafe habits, and abusive behavior.

## **Outcome: 1.2. Leadership and Communications**

Process, maintain, evaluate and disseminate information in a business. Develop leadership and team building to promote collaboration.

### **Competencies**

- 1.2.1. Extract relevant, valid information from materials and cite sources of information.
- 1.2.2. Deliver formal and informal presentations.
- 1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.
- 1.2.4. Use negotiation and conflict-resolution skills to reach solutions.
- 1.2.5. Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose.
- 1.2.6. Use proper grammar and expression in all aspects of communication.
- 1.2.7. Use problem-solving and consensus-building techniques to draw conclusions and determine next steps.
- 1.2.8. Identify the strengths, weaknesses, and characteristics of leadership styles that influence internal and external workplace relationships.
- 1.2.9. Identify advantages and disadvantages involving digital and/or electronic communications (e.g., common content for large audience, control of tone, speed, cost, lack of non-verbal cues, potential for forwarding information, longevity).
- 1.2.10. Use interpersonal skills to provide group leadership, promote collaboration and work in a team.
- 1.2.11. Write professional correspondence, documents, job applications, and resumé.
- 1.2.12. Use technical writing skills to complete forms and create reports.
- 1.2.13. Identify stakeholders and solicit their opinions.
- 1.2.14. Use motivational strategies to accomplish goals.

### **Outcome: 1.3. Business Ethics and Law**

Analyze how professional, ethical, and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.

#### **Competencies**

- 1.3.1. Analyze how regulatory compliance affects business operations and organizational performance.
- 1.3.2. Follow protocols and practices necessary to maintain a clean, safe, and healthy work environment.
- 1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice).
- 1.3.4. Identify how federal and state consumer protection laws affect products and services.
- 1.3.5. Access and implement safety compliance measures (e.g., quality assurance information, safety data sheets [SDSs], product safety data sheets [PSDSs], United States Environmental Protection Agency [EPA], United States Occupational Safety and Health Administration [OSHA]) that contribute to the continuous improvement of the organization.
- 1.3.6. Identify deceptive practices (e.g., bait and switch, identity theft, unlawful door-to-door sales, deceptive service estimates, fraudulent misrepresentations) and their overall impact on organizational performance.
- 1.3.7. Identify the labor laws that affect employment and the consequences of noncompliance for both employee and employer (e.g., harassment, labor, employment, employment interview, testing, minor labor laws, Americans with Disabilities Act, Fair Labor Standards Acts, Equal Employment Opportunity Commission [EEOC]).
- 1.3.8. Verify compliance with computer and intellectual property laws and regulations.
- 1.3.9. Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational, and professional ethical standards.

### **Outcome: 1.4. Knowledge Management and Information Technology**

Demonstrate current and emerging strategies and technologies used to collect, analyze, record and share information in business operations.

#### **Competencies**

- 1.4.1. Use office equipment to communicate (e.g., phone, radio equipment, fax machine, scanner, public address systems).
- 1.4.2. Select and use software applications to locate, record, analyze, and present information (e.g., word processing, e-mail, spreadsheet, databases, presentation, Internet search engines).
- 1.4.3. Verify compliance with security rules, regulations and codes (e.g., property, privacy, access, accuracy issues, client, and patient record confidentiality) pertaining to technology specific to the industry pathway.
- 1.4.4. Use system hardware to support software applications.
- 1.4.5. Use information technology tools to maintain, secure and monitor business records.
- 1.4.6. Use an electronic database to access and create business and technical information.
- 1.4.7. Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books).
- 1.4.8. Use electronic media to communicate and follow network etiquette guidelines.

### **Outcome: 1.5. Global Environment**

Evaluate how beliefs, values, attitudes, and behaviors influence organizational strategies and goals.

#### **Competencies**

- 1.5.1. Describe how cultural understanding, cultural intelligence skills and continual awareness are interdependent.
- 1.5.2. Describe how cultural intelligence skills influence the overall success and survival of an organization.
- 1.5.3. Use cultural intelligence to interact with individuals from diverse cultural settings.
- 1.5.4. Recognize barriers in cross-cultural relationships and implement behavioral adjustments.
- 1.5.5. Recognize the ways in which bias and discrimination may influence productivity and profitability.
- 1.5.6. Analyze work tasks for understanding and interpretation from a different cultural perspective.
- 1.5.7. Use intercultural communication skills to exchange ideas and create meaning.
- 1.5.8. Identify how multicultural teaming and globalization can foster development of new and improved products and services and recognition of new opportunities.

## **Outcome: 1.6. Business Literacy**

Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.

### **Competencies**

- 1.6.1. Identify business opportunities.
- 1.6.2. Assess the reality of becoming an entrepreneur, including advantages and disadvantages (e.g., risk versus reward, reasons for success and failure).
- 1.6.3. Explain the importance of planning your business.
- 1.6.4. Identify types of businesses, ownership, and entities (i.e., individual proprietorships, partnerships, corporations, cooperatives, public, private, profit, not-for-profit).
- 1.6.5. Describe organizational structure, chain of command, the roles and responsibilities of the organizational departments, and interdepartmental interactions.
- 1.6.6. Identify the target market served by the organization, the niche that the organization fills, and an outlook of the industry.
- 1.6.7. Identify the effect of supply and demand on products and services.
- 1.6.8. Identify the features and benefits that make an organization's product or service competitive.
- 1.6.9. Explain how the performance of an employee, a department and an organization is assessed.
- 1.6.10. Describe the impact of globalization on an enterprise or organization.
- 1.6.11. Describe how all business activities of an organization work within the parameters of a budget.
- 1.6.12. Describe classifications of employee benefits, rights, deductions and compensations.

### **Outcome: 1.7. Entrepreneurship/Entrepreneurs**

Analyze the environment in which a business operates, and the economic factors and opportunities associated with self-employment.

#### **Competencies**

- 1.7.1. Compare and contrast the four types of business ownership (i.e., individual proprietorships, partnerships, corporations, cooperatives).
- 1.7.2. Explain the role of profit as the incentive to entrepreneurs in a market economy.
- 1.7.3. Identify the factors that contribute to the success and failure of entrepreneurial ventures.
- 1.7.4. Assess the roles of nonprofit and for-profit businesses.
- 1.7.5. Develop a business plan.
- 1.7.6. Describe life cycles of an entrepreneurial business and an entrepreneur.
- 1.7.7. Create a list of personal strengths, weaknesses, skills and abilities needed to be successful as an entrepreneur.
- 1.7.8. Explain pathways used to become an entrepreneur.
- 1.7.9. Conduct a self-assessment to determine entrepreneurial potential.
- 1.7.10. Describe techniques for obtaining experience (e.g., apprenticeship, co-operative [co-op] education, work placement, internship, job shadowing) related to an entrepreneurial objective.
- 1.7.11. Identify initial steps in establishing a business (e.g., limited liability company [LLC], tax ID, permits, insurance, licensing).
- 1.7.12. Identify resources available to entrepreneurs (e.g., Small Business Administration, mentors, information resources, educational opportunities).
- 1.7.13. Protect intellectual property and knowledge (e.g., copyright, patent, trademark, trade secrets, processes).

## **Outcome: 1.8. Operations Management**

Plan, organize, and monitor an organization or department to maximize contribution to organizational goals and objectives.

### **Competencies**

- 1.8.1. Forecast future resources and budgetary needs using financial documents (e.g., balance sheet demand forecasting, financial ratios).
- 1.8.2. Select and organize resources to develop a product or a service.
- 1.8.3. Analyze the performance of organizational activities and reallocate resources to achieve established goals.
- 1.8.4. Identify alternative actions to take when goals are not met (e.g., changing goals, changing strategies, efficiencies).
- 1.8.5. Use inventory and control systems to purchase materials, supplies, and equipment (e.g., Last In, First Out [LIFO]; First In, First Out [FIFO]; Just in Time [JIT]; LEAN).
- 1.8.6. Identify the advantages and disadvantages of carrying cost and Just-in-Time (JIT) production systems and the effects of maintaining inventory (e.g., perishable, shrinkage, insurance) on profitability.
- 1.8.7. Collect information and feedback to help assess the organization's strategic planning and policymaking processes.
- 1.8.8. Identify routine activities for maintaining business facilities and equipment.
- 1.8.9. Develop a budget that reflects the strategies and goals of the organization.
- 1.8.10. Analyze how business management and environmental management systems (e.g., health, safety) contribute to continuous improvement and sustainability.

## **Outcome: 1.9. Financial Management**

Use financial tools, strategies and systems to develop, monitor and control the use of financial resources to ensure personal and business financial well-being.

### **Competencies**

- 1.9.1. Create, analyze and interpret financial documents (e.g., budgets, income statements).
- 1.9.2. Identify tax obligations.
- 1.9.3. Review and summarize savings, investment strategies and purchasing options (e.g., cash, lease, finance, stocks, bonds).
- 1.9.4. Identify credit types and their uses in order to establish credit.
- 1.9.5. Identify ways to avoid or correct debt problems.
- 1.9.6. "Explain how credit ratings and the criteria lenders use to evaluate repayment capacity affect access to loans."
- 1.9.7. "Review and summarize categories (types) of insurance and identify how insurances can reduce financial risk."
- 1.9.8. Identify income sources and expenditures.
- 1.9.9. Compare and contrast different banking services available through financial institutions.
- 1.9.10. Identify the role of depreciation in tax planning and liability.

## **Outcome: 1.10. Sales and Marketing**

Manage pricing, place, promotion, packaging, positioning, and public relations to improve quality customer service.

### **Competencies**

- 1.10.1. Identify how the roles of sales, advertising, and public relations contribute to a company's brand.
- 1.10.2. Determine the customer's needs and identify solutions.
- 1.10.3. Communicate features, benefits, and warranties of a product or service to the customer.
- 1.10.4. Identify the company policies and procedures for initiating product and service improvements.
- 1.10.5. Monitor customer expectations and determine product/services satisfaction by using measurement tools.
- 1.10.6. Discuss the importance of correct pricing to support a product or service's positioning in the marketing mix.
- 1.10.7. Describe the importance and diversity of distribution channels (i.e., direct, indirect) to sell a product.
- 1.10.8. Use promotional techniques to maximize sales revenues (e.g., advertising, sales promotions, publicity, public relations).
- 1.10.9. Describe how product mix (e.g., product line, product items) maximize sales revenues, market, share, and profit margin.
- 1.10.10. Demonstrate sales techniques.

### **Outcome: 1.11. Principles of Business Economics**

Examine and employ economic principles, concepts, and policies to accomplish organizational goals and objectives.

#### **Competencies**

- 1.11.1. Identify the economic principles that guide geographic location of an industry's facilities (e.g., relative scarcity, price, quantity of products and services).
- 1.11.2. Identify the difference between monetary and nonmonetary incentives and explain how changes in incentives cause changes in behavior.
- 1.11.3. Use economic indicators to identify economic trends and conditions (e.g., inflation, interest rate fluctuations, unemployment rates).
- 1.11.4. Determine how the quality, quantity and pricing of goods and services are affected by domestic and international competition in a market economy.
- 1.11.5. Analyze factors that affect currency and exchange rates.
- 1.11.6. Explain how financial markets and government policies influence interest rates (credit ratings/debt ceiling), trade deficits and unemployment.
- 1.11.7. Describe how economic performance and culture are interdependent.
- 1.11.8. Identify the relationships between economy, society and environment that lead to sustainability.
- 1.11.9. Describe how laws and regulations influence domestic and international trade.

### **Outcome: 1.12. Cyber Hygiene**

Apply digital information security principles to keep information secure.

#### **Competencies**

- 1.12.1. Identify the purpose and practices of Cyber Hygiene.
- 1.12.2. Differentiate between appropriate and inappropriate information.
- 1.12.3. Interpret security policies through job specific training and training updates.
- 1.12.4. Apply secure password behavior.
- 1.12.5. Apply physical and virtual situational awareness (e.g., clean desk policies, shoulder surfing, social engineering, tailgating).

## Strand 2. Design

Learners apply the elements and principles of design and compositional techniques to create works of art and visual layouts for both tactile and digital art forms.

### **Outcome: 2.1. Arts Elements and Design Principles**

Analyze works of art for the art elements and the design principles needed to create professional products.

#### **Competencies**

- 2.1.1. Describe art elements of line, value, color, shape, space, form, and texture in various media that are used individually or in combination.
- 2.1.2. Identify specific characteristics (i.e., positive and negative, organic, geometric, quality, weight, direction, variety, unity, balance, symmetry) of art elements that communicate and express ideas.
- 2.1.3. Determine how and when to apply the principles of design, including unity, variety, balance, movement, emphasis, visual hierarchy, and proportion/scale to communicate ideas.
- 2.1.4. Identify, compare, and contrast unity and variety within a design (e.g., formal/symmetrical, informal/asymmetrical, and radial balance).
- 2.1.5. Observe movement shown through repetition, pattern, and rhythm.
- 2.1.6. Interpret emphasis through contrast, isolation, size, and placement.
- 2.1.7. Identify visual hierarchy used to establish dominance.
- 2.1.8. Recognize the use of proportion/scale.

## **Outcome: 2.2. Color Theory**

Assess the use of color for commercial design.

### **Competencies**

- 2.2.1. Explain the science of color perception using the electromagnetic spectrum.
- 2.2.2. Choose color pairings with regard to ADA compliance, color visibility, readability, and accessibility.
- 2.2.3. Describe how changes to tint, shade, hue, value, intensity, and saturation relate to color theory.
- 2.2.4. Identify gamut output issues and calibrate color.
- 2.2.5. Select color profiles for different mediums (e.g., Red Green Blue [RGB], Cyan Magenta Yellow Key [CMYK], Pantone®, Reference Output Medium Metric [ROMM] RGB, CIE-L\*a\*B\* color space).
- 2.2.6. Replicate color across multiple media accommodating how color changes from the monitor to the final product (e.g., coated and uncoated papers, metallic, color-calibrated monitors).
- 2.2.7. Compare and contrast additive and subtractive color theory (e.g., RGB, CMYK).
- 2.2.8. Compare and contrast choices using the psychology of color.
- 2.2.9. Critique the use of color schemes (e.g., primary, secondary, tertiary, analogous, complementary, triads, monochromatic) in various media.

## **Outcome: 2.3. Art Forms**

Apply art elements and design principles to create two-dimensional (2D) and three-dimensional (3D) commercial products using various media to communicate the message and evoke the desired audience response.

### **Competencies**

- 2.3.1. Render a proportionately correct portrait and figure drawing.
- 2.3.2. Render in one-point, two-point, multi-point, and aerial perspectives.
- 2.3.3. Apply color using pencil, marker, dry media, wet media, and digital media.
- 2.3.4. Demonstrate shape, volume, depth, and dimension.
- 2.3.5. Employ techniques that produce actual and implied texture (e.g., filters, embroidery, embossing, clay, wax, wood, metal).
- 2.3.6. Select the material based on its characteristics (e.g., design, construction, maintenance, care of product) for the intended use.
- 2.3.7. Create a 3D design according to specific measurements using drawing, cutting, scoring, and bonding techniques.

## **Outcome: 2.4. Visual Layouts**

Create layouts for pre-production and analyze the communicative effects on the commercial product.

### **Competencies**

- 2.4.1. Create thumbnail and rough sketches.
- 2.4.2. Apply the proper color profile for the final output.
- 2.4.3. Create single and multi-color layouts using images and formats.
- 2.4.4. Use process color and spot color separations.
- 2.4.5. Differentiate between raster- and vector-based layouts.
- 2.4.6. Apply the components of a comprehensive layout (e.g., color scheme, font, white space, text graphics, frames, headings) according to an overall theme for the product.
- 2.4.7. Determine composition, formal qualities, scale, and use of space.
- 2.4.8. Apply compositional techniques, including rule of thirds, use of a grid system, 180-degree rule, framing, fill frame, pyramid, strong center of interest, and aspect ratio.
- 2.4.9. Create visual continuity among a variety of products.
- 2.4.10. Determine how the technical characteristics of the print medium affect content and style.
- 2.4.11. Calculate finishing requirements in a layout (e.g., registration marks, bleed, slugs).
- 2.4.12. Evaluate the product in terms of the message or meaning for the targeted audience.

## **Outcome: 2.5. Typography**

Apply typographical elements for a commercial presentation.

### **Competencies**

- 2.5.1. Select typefaces for relevant applications.
- 2.5.2. Apply typography kerning, leading, and hierarchy for readability and accessibility.
- 2.5.3. Use typographic measurements in terms of picas, points, pixels and ems.
- 2.5.4. Apply multiple families of type within a project.
- 2.5.5. Use typography as a primary component of logo design.
- 2.5.6. Determine the effect of various font types on operating systems.
- 2.5.7. Assess typography's effects on message delivery and aesthetics (e.g., limit families, readability).

## **Outcome: 2.6. UX/UI Design**

Develop basic skills and knowledge of the UX/UI design process.

### **Competencies**

- 2.6.1. Understand the UX/UI design process (e.g. vision, journey mapping, wireframing, prototyping, strategizing) for the targeted platform (e.g. graphics, applications, programming).
- 2.6.2. Conduct and analyze research (focus testing, beta testing) with the end user in mind.
- 2.6.3. Design user tasks and evaluate results (e.g. use-case scenarios, tabletop exercises, wireframe testing).
- 2.6.4. Develop a user persona to help inform the design process.
- 2.6.5. Conduct and analyze competition research.
- 2.6.6. Design interface elements and experiences that connect concepts with the real world (i.e. Skeuomorphic Design).
- 2.6.7. Implement UI patterns and libraries, such as navigation elements and icons.
- 2.6.8. Draft, design, and utilize design prototypes (low-fidelity, high-fidelity) to guide the design process.
- 2.6.9. Design or select appropriate icons for specific user interaction elements.
- 2.6.10. Understand how the use of appropriate iconography impacts user experience
- 2.6.11. Understand various design methodologies (Bottom-Up, Top-Down, Agile, ) and evaluate their strengths and weaknesses.
- 2.6.12. Describe how attention, memory, perception, conditioning, and learning define the user experience and affects their actions.
- 2.6.13. Describe how usability heuristics develop a better experience for the end-user.

## Strand 3. Written Content Creation

Learners apply content creation knowledge and skills to use the intended message for entertainment, journalism, or marketing purposes.

### **Outcome 3.1. Career-Based Writing**

Develop basic skills and knowledge related to fact-, entertainment-, and marketing-based copy.

#### **Competencies**

- 3.1.1. Analyze writing content and styles of fact-, entertainment-, and marketing-based models.
- 3.1.2. Compare and contrast fiction and nonfiction.
- 3.1.3. Assess and determine the platform for delivery (e.g., video, audio, print, digital, and social media).
- 3.1.4. Compare and contrast vocabulary, transition words, diction, grammar, spelling, syntax, word choice, and sentence structure within writing models.
- 3.1.5. Create and copy that emphasizes the central theme through supporting ideas or facts.
- 3.1.6. Adapt writing for the literacy level of the audience, including the use of readability software.
- 3.1.7. Critique timeliness, effect, and proximity characteristics of copy.
- 3.1.8. Meet organization-sensitive requirements such as tone, approach, and word count while following style guide parameters.
- 3.1.9. Adapt the format (e.g., web, column) and body style (e.g., inverted-pyramid, hourglass, narrative) based on technical requirements and the purpose for writing.
- 3.1.10. Select visual imagery to support or enhance copy.
- 3.1.11. Review, re-write, and edit to prepare the final copy for client and artistic approval.
- 3.1.12. Critique the impact of your writing and incorporate editor feedback in a revision.

## **Outcome 3.2. Entertainment-based Writing**

Produce copies for products designed for amusement and enjoyment.

### **Competencies**

- 3.2.1. Compare and contrast entertainment-based models of content created for print, electronic, audio, video, digital, live performance, speech, and audio-visual genres.
- 3.2.2. Compare and contrast writing to be read and writing to be performed.
- 3.2.3. Brainstorm the theme and plot through outlining or storyboarding.
- 3.2.4. Create copy in verse format using imagery and symbolism to express sensory details and enhance meaning.
- 3.2.5. Create copy with appropriate tone, content, emotion, and psychology for the speaker or performer.
- 3.2.6. Annotate copy with phonetic spelling for the speaker or performer.
- 3.2.7. Create text for fiction and non-fiction artistic genres.
- 3.2.8. Create fiction and non-fiction scripts for various media.
- 3.2.9. Develop provocative and persuasive audio essays.
- 3.2.10. Determine how the script dictates various elements including setting, music, and blocking.
- 3.2.11. identify different features of scripts (e.g., setting, dialogue, plot, characters).

### **Outcome: 3.3. Fact-Based Writing**

Write concise and focused copy for journalism.

#### **Competencies**

- 3.3.1. Determine what information is newsworthy.
- 3.3.2. Write stories in basic news style using the inverted pyramid to identify who, what, when, where, why, and how.
- 3.3.3. Identify positions from research and resources while remaining objective.
- 3.3.4. Compare and contrast objective and subjective fact-based text.
- 3.3.5. Seek, consider, and synthesize primary, secondary, quantitative, and qualitative research.
- 3.3.6. Conduct primary source interviews using face-to-face and electronic programming.
- 3.3.7. Follow protocol for off-the-record information.
- 3.3.8. Design a story lead based on purpose and audience.
- 3.3.9. Create informational text for multiple purposes, including editorial, press releases, biographies, narratives, public service announcements, and social media.
- 3.3.10. Apply direct, indirect, and partial quotes.
- 3.3.11. Create content format, length, and flow based on purpose, audience, and channel.
- 3.3.12. Create specialized stories.
- 3.3.13. Engage symmetrical and asymmetrical strategies in the creation and revision of content.
- 3.3.14. Illustrate the value of a project through a media pitch.
- 3.3.15. Identify the time-sensitive elements of content.

### **Outcome: 3.4. Market-Based Writing**

Write concise, creative, memorable, sellable copy for advertising, public relations, and proposals.

#### **Competencies**

- 3.4.1. Research and analyze trends and local markets for opportunities.
- 3.4.2. Determine the wants and needs of the target audience.
- 3.4.3. Communicate brand image and product value.
- 3.4.4. Create subjective text to market products through various information channels to reach target audiences with compelling brand messages
- 3.4.5. Synthesize ideas for primary and secondary messages.
- 3.4.6. Apply the product, price, promotion, and placement components of marketing.
- 3.4.7. Implement the voice of the customer in branding.
- 3.4.8. Create and revise messages for word-of-mouth, advertising, digital platforms, and social media channels.
- 3.4.9. Evaluate advertising to measure quantifiable achievement of goals and objectives, including analytics, where applicable.
- 3.4.10. Apply channels of direct mail, online, email, web, and social media strategies.

### **Outcome: 3.5. Social Media**

Develop content for social media.

#### **Competencies**

- 3.5.1. Describe the similarities and differences between social media platforms.
- 3.5.2. Describe the evolution of social media.
- 3.5.3. Compare the use of social media for business vs. personal use.
- 3.5.4. Understand social trends and cultural perspectives and how they manifest on social media.
- 3.5.5. Create content tailored to a specific social media platform.
- 3.5.6. Describe how online communities form and are shaped by social media platforms.
- 3.5.7. Perform a social media audit.
- 3.5.8. Analyze the results of a social media audit and create an improvement strategy.
- 3.5.9. Analyze engagement metrics (e.g. follower count, posting frequency, referral traffic).
- 3.5.10. Develop a social media engagement strategy.
- 3.5.11. Develop, generate, and share content for a social media marketing campaign.
- 3.5.12. Describe how organizations use social games to meet branding objectives (i.e. product placement).
- 3.5.13. Describe the role of social media metrics and explain how to calculate your social media return on investment (e.g. paid vs. organic posts, influencers).

## Strand 4. Audio, Video, and Photo Imaging

Learners apply knowledge and skills of photography and videography to capture, engineer, and manipulate audio, images, and video for media production.

### **Outcome: 4.1. Science of Sound**

Apply the characteristics and properties of sound to a professional production.

#### **Competencies**

- 4.1.1. Identify the properties of sound.
- 4.1.2. Classify elements in sound transduction, including resistance, balanced versus unbalanced lines, and how sound energy is converted into electrical energy.
- 4.1.3. Measure sound in a variety of ways, such as perceived loudness (human judgement) peak level, RMS root mean squared or LUFS.
- 4.1.4. Identify sound pressure level (SPL).
- 4.1.5. Analyze room acoustics and their impact on sound, such as diffraction, diffusion, phase, and harmonics.
- 4.1.6. Apply the principles of direct sound, early reflection, and reverberation.
- 4.1.7. Apply the principles of digital audio theory (e.g., sampling rate, bit depth, Nyquist Theorem, and various compression algorithms for lossy and lossless audio).

### **Outcome: 4.2. Audio Capturing**

Apply the principles and properties of how sound is measured, converted and perceived to capture an audio recording for professional purposes.

#### **Competencies**

- 4.2.1. Compare and contrast microphone properties (e.g., polar patterns, type of transducer) with their intended use (e.g., handheld, lav, boom).
- 4.2.2. Determine microphone and monitor placement according to directional characteristics.
- 4.2.3. Organize a production from pre-production through publishing and distribution.
- 4.2.4. Distinguish among digital media formats (e.g., .mp3, .mp4, .wav, .aiff).
- 4.2.5. Select a score for production and post-production needs.

### **Outcome: 4.3. Audio Operations**

Manipulate recordings for professional purposes.

#### **Competencies**

- 4.3.1. Produce recordings in a variety of settings (e.g., studio, live, post-production).
- 4.3.2. Apply digital signal processing (DSP) (e.g., EQ, compression, reverb, delay, etc.).
- 4.3.3. Synchronize media from different sources.
- 4.3.4. Mix audio, including relative level, spatial positioning, equalization, dynamics processing, and effects processing.
- 4.3.5. Design and set a stage plot for live performance.
- 4.3.6. Mix live sound for a variety of events (e.g., concert, speech, panel discussion, performance, etc.).

### **Outcome: 4.4. Lighting**

Measure and manipulate lighting based on the characteristics and properties of light.

#### **Competencies**

- 4.4.1. Measure light levels in camera and using hand-held devices.
- 4.4.2. Determine the color temperature that is appropriate for the environment.
- 4.4.3. Manipulate and direct light using ratios, gels, filters, diffusion, and gobos.
- 4.4.4. Implement lighting techniques (e.g., four-point, bounce, high-key, low-key, cross-key, mixed) to produce specific effects.

## **Outcome: 4.5. Photography**

Capture and edit still images for commercial purposes.

### **Competencies**

- 4.5.1. Analyze the capabilities of different image capturing devices.
- 4.5.2. Clean and maintain camera equipment.
- 4.5.3. Identify the effects of ISO settings on image quality.
- 4.5.4. Achieve proper exposure through light, shutter speed, and aperture.
- 4.5.5. Affect apparent motion through shutter speed.
- 4.5.6. Manipulate aperture settings to alter depth of field.
- 4.5.7. Alter image through focus, white balance, exposure modes, and camera lens filters.
- 4.5.8. Capture images through various lenses.
- 4.5.9. Modify images through sizing, cropping, and output resolution.
- 4.5.10. Modify an image through color-management and special effects.
- 4.5.11. Enhance an image with tone, contrast, filters, composites, and sharpening techniques.
- 4.5.12. Retouch an image by cloning, healing, patching and rebuilding.
- 4.5.13. Integrate image capture with post-production processes.
- 4.5.14. Capture multiple images and render them in high dynamic range.
- 4.5.15. Understand the fundamentals of composition.
- 4.5.16. Capture images using various camera shots.
- 4.5.17. Produce or modify story elements such as mood, tone, and theme to tell a coherent story through images.

## **Outcome: 4.6. Videography**

Shoot video for professional and archival purposes.

### **Competencies**

- 4.6.1. Analyze the capabilities of different video devices.
- 4.6.2. Select, prepare, clean, and maintain equipment for a production.
- 4.6.3. Achieve proper exposure and depth of field using gain, white balance, focus, focal length, audio controls, bars, and tone.
- 4.6.4. Select file format, frame rate, and resolution.
- 4.6.5. Frame shots for proper composition, including extreme long, long, medium, close-up, extreme closeup, two-shot, over-the-shoulder, head room, nose room, and lead room.
- 4.6.6. Use storyboards to apply screen directions (e.g., motion, index, graphic)
- 4.6.7. Create steady shots and smooth camera movements using handheld techniques, tripods, and other stabilizing equipment.
- 4.6.8. Create slow and fast motion effects by adjusting shutter speeds and frame rates.
- 4.6.9. Log video during shooting.

## **Outcome: 4.7. Audio/Video Editing**

Edit post-production audio or video for commercial purposes.

### **Competencies**

- 4.7.1. Compare and contrast linear and nonlinear digital editing systems for audio/video.
- 4.7.2. Import and log media for editing.
- 4.7.3. Manage files of digital clips.
- 4.7.4. Use storyboard techniques to place media on a timeline.
- 4.7.5. Correct color, condense and enhance a video production.
- 4.7.6. Edit audio or video online and offline with transitions, cutting points, order of shots, and continuity.
- 4.7.7. Add special effects to a video through filters, keying, and image control.
- 4.7.8. Mix audio for video through filters, ambient sound, sound effects, equalization (EQ), and matching levels.
- 4.7.9. Create graphics for video products (e.g., titles, still images).
- 4.7.10. Export and upload media for desired specifications and for appropriate platforms.

## Strand 5. Print Production Process

Learners apply knowledge and skills to produce print or digital products.

### **Outcome: 5.1. File Preflight**

Preflight files before printing.

#### **Competencies**

- 5.1.1. Input customer files from various sources (e.g. Dropbox, Google Drive, FTP, etc.) into a design application and process on a prepress system.
- 5.1.2. Compare the on-screen layout to the customer proof.
- 5.1.3. Create and manage page geometry for print production concerns including bleeds, trapping, pagination/imposition, screening, total ink coverage, and creating color separations.
- 5.1.4. Examine font and picture usage for mapping, alignment, linking, and resolution issues.
- 5.1.5. Identify color correction factors, including assignment, gamut, dot gain, screen angles, trapping, gray balance, and rich black.
- 5.1.6. Troubleshoot files using automated preflight tools and reports. Make recommended adjustments to files.
- 5.1.7. Confirm file accuracy through test printing or electronic approval.

### **Outcome: 5.2. File Output**

Output files for print production.

#### **Competencies**

- 5.2.1. Determine the resolution of the output device.
- 5.2.2. Using additive and subtractive color theories, explain the difference of RGB, Grayscale, LAB, and CMYK color spaces.
- 5.2.3. Manage output factors, including file management and raster image processing.
- 5.2.4. Interpret marks used for indicating registration, cropping, trims, and ink density.
- 5.2.5. Verify that imagesetter materials and settings are correct.
- 5.2.6. Compare image carrier generation methods, including computer-to-plate [CTP], film-based, screen, and flexography.
- 5.2.7. Analyze factors for image carrier issues, including depleted chemistry and light leak.
- 5.2.8. Check color separations.

### **Outcome: 5.3. Offset Image Control Systems**

Set up substrate and image control systems for printing.

#### **Competencies**

- 5.3.1. Explain and demonstrate substrate selection and substrate printing methods.
- 5.3.2. Apply color matching specifications for industry recognized systems.
- 5.3.3. Maintain conductivity and pH levels for offset printing.
- 5.3.4. Set up and adjust register systems.
- 5.3.5. Maintain image density and coverage.
- 5.3.6. Compare drying methods, including heat, oxidation, ultraviolet [UV], LED, additives, and infrared.
- 5.3.7. Preserve image carriers.
- 5.3.8. Select ink types based on their properties and product specifications.
- 5.3.9. Explain the difference between substrates (e.g. – paper – coated/uncoated, cover/text weights, basis weight, vinyl – banner/adhesive, printable/nonprintable, textiles, etc.)
- 5.3.10. Demonstrate the operation of different printing processes (e.g., digital printing, offset printing, screen printing, flexography, wide-format printing, etc).

### **Outcome: 5.4. Printed Images**

Create printed images according to the client’s approved proof.

#### **Competencies**

- 5.4.1. Compare and contrast color density proofs and press sheets for offset wide-format inkjet and laser formats using visual and equipment readings.
- 5.4.2. Interpret color bars.
- 5.4.3. Analyze the effects of single-color and multiple-color (e.g., Pantone®, spot color) output on various substrates (e.g., paper, plastic, recycled materials).
- 5.4.4. Analyze the effects of process color output on various substrates (e.g., paper, plastic, recycled materials).
- 5.4.5. Analyze and maintain print quality controls for offset wide-format inkjet and laser formats.
- 5.4.6. Produce copies following project specifications.
- 5.4.7. Identify the image quality factors that are measured by a densitometer and a spectrophotometer and other quality control devices.

## **Outcome: 5.5. Digital Print Methods**

Analyze digital print technologies for digital and offset production.

### **Competencies**

- 5.5.1. Explain printing technologies and uses, including laser, toner-based xerography, ink-based digital, wide-format, inkjet, direct-to-film, direct-to-garment, and UV (ultraviolet) printing.
- 5.5.2. Create digital masters for production, including offset and digital ink-based printing.
- 5.5.3. Analyze the raster image processor (RIP) / digital front end (DFE), including its functionality, purpose and significance in a digital printing workflow.
- 5.5.4. Identify the types of file formats that can be sent to a RIP/DFE for both static and variable print.
- 5.5.5. Determine proper planning for jobs and cost accounting for production for each method of printing.
- 5.5.6. Compare and contrast proofing techniques used in various printing technologies.
- 5.5.7. Compare the differences between colorants and substrates used in various printing technologies.
- 5.5.8. Identify substrate-related print quality issues as they relate to digital printing.
- 5.5.9. Identify the basic subsystems and the functions of the components of digital output devices.
- 5.5.10. Identify the different substrates available for replicating the master file/art.
- 5.5.11. Manage output product types for digital printing.
- 5.5.12. Determine artwork capabilities for reproduction.

## **Outcome: 5.6. Digital Production Printing**

Produce digital print jobs on digital print systems.

### **Competencies**

- 5.6.1. Use database software and text/graphics to create a variable data printing job.
- 5.6.2. Plan and execute a digital job, including reading and interpreting production information on a job docket/ticket, maintaining a checklist, and queuing a job.
- 5.6.3. Determine the proper output device according to job specifications.
- 5.6.4. Select finishing methods within the output software, including stitching, binding, folding, booklet-making, and hole-punching.
- 5.6.5. Manage output product types for digital printing.
- 5.6.6. Print black-and-white and process-color jobs on coated and uncoated paper.
- 5.6.7. Analyze the capabilities of three-dimensional (3D) printing.
- 5.6.8. Understand advanced finishing techniques (e.g. varnishes, embossing, laminating, etc.)

## **Outcome: 5.7. Screen Printing and Embroidery**

Engage screen printing and embroidery operations.

### **Competencies**

- 5.7.1. Identify substrates and their marketable applications in screen printing and embroidery.
- 5.7.2. Compare the differences in screen printing inks (e.g. water-based ink, plastisol, specialty additives).
- 5.7.3. Compare the differences in embroidery threads (e.g. acrylic, polyester, cotton, rayon).
- 5.7.4. Adjust the factors that determine the quality of the impression (e.g., angle, pressure, speed, composition).
- 5.7.5. Compare light-emitting diode (LED) lamps to metal halide lamps and select the lamp for the given screen-printing purpose.
- 5.7.6. Explain image digitization for embroidery purposes.
- 5.7.7. Explain stitch count and hoop size, using embroidery software.
- 5.7.8. Perform maintenance on equipment and machinery.
- 5.7.9. Create final print materials for screen printing and embroidery and verify printing quality.
- 5.7.10. Dry or cure printed objects for screen printing projects.
- 5.7.11. Reclaim screens and waste materials for screen printing projects.

## **Outcome: 5.8. Binding and Finishing**

Evaluate post image transfer finishing methods and techniques.

### **Competencies**

- 5.8.1. Identify post image transfer finishing requirements.
- 5.8.2. Describe and identify inline- and offline-finishing systems.
- 5.8.3. Explain specifications for folding and using mockups.
- 5.8.4. Fold products, using single-, letter-, and tri-fold.
- 5.8.5. Score and perforate products.
- 5.8.6. Bind products through drilling, perfect binding, and saddle and flat stitching techniques.
- 5.8.7. Finish a saddle-stitched product through in-line, near-line, and off-line methods.
- 5.8.8. Identify requirements for padding.
- 5.8.9. Apply specialty finishing processes, including thermography, foil stamping, embossing, and die cutting.
- 5.8.10. Verify that imagesetter materials and settings are correct.
- 5.8.11. Assemble three-dimensional (3D) products (e.g., packaging, promotional and point-of-purchase displays, folders, pop-up books).

## **Outcome: 5.9. Flexography**

Engage flexographic printing operations.

### **Competencies**

- 5.9.1. Identify and explain how flexography is different from other types of contact printing.
- 5.9.2. Identify and explain the substrates and inks used in flexography and the differences between the types of substrates and inks from other types of contact printing.
- 5.9.3. Make and explain the prepress methods and platemaking process used in flexography (e.g., trapping, step and repeat, screening, anamorphic distortion, analog, and digital platemaking).
- 5.9.4. Demonstrate and explain the plate mounting procedure for flexography. (e.g., plate durometer, thickness, sticky back selection).
- 5.9.5. Demonstrate and explain the operation of a flexographic printing press and how it differs from other types of contact printing.
- 5.9.6. Demonstrate and explain the different finishing operations in flexography. (e.g., inline vs. near line vs. offline, creasing, die cutting, specialty finishing, varnishes, metallics, variable data).

## Strand 6. Digital Design

Learners apply knowledge and skills of digital design to manipulate and animate new and existing audio, video, or photo images to create graphics for internet, broadcast, mobile, and other multimedia applications.

### **Outcome: 6.1. Content Management**

Import, store, export, and manage digital assets.

#### **Competencies**

- 6.1.1. Identify the characteristics that make media interactive.
- 6.1.2. Compare how digital and interactive media are used in different environments (e.g., kiosks, electronic billboards, games).
- 6.1.3. Select an application according to its capabilities in meeting the purpose and budget.
- 6.1.4. Import media into the selected application.
- 6.1.5. Identify the hardware capabilities of various devices and how processor speed, Random Access Memory (RAM), monitor resolution, and media storage affect the development and use of digital projects.
- 6.1.6. Convert file formats for use in editing software and other applications.
- 6.1.7. Export media in the appropriate format for delivery.
- 6.1.8. Manage and archive digital assets through organizational techniques (e.g., metadata, keywords, file/folder structure, name conventions).
- 6.1.9. Explain and demonstrate how creating dynamic advertising is different from other types of advertising.

### **Outcome: 6.2. Scanning**

Apply scanning techniques and procedures to capture images for design.

#### **Competencies**

- 6.2.1. Describe the relationship between lines per inch (LPI) and dots per inch (DPI).
- 6.2.2. Describe the relationship between resolution and file size.
- 6.2.3. Manipulate input functions, calibrate scanning equipment, save images in various formats, and scale, size, and adjust file resolution to scan images.

### **Outcome: 6.3. Graphics**

Create and manipulate two-dimensional (2D) and three-dimensional (3D) digital graphics.

#### **Competencies**

- 6.3.1. Create digital graphics.
- 6.3.2. Manipulate the attributes of graphics (e.g., color, shape, size, texture, typography).
- 6.3.3. Arrange and manage graphics using layers.
- 6.3.4. Select a graphic file format based on compression, resolution and file size.
- 6.3.5. Organize and export graphic files for intended use and platform.

### **Outcome: 6.4. Animation**

Create digital animation.

#### **Competencies**

- 6.4.1. Develop a plan and storyboard for an animation.
- 6.4.2. Create and import two-dimensional (2D) assets and environments.
- 6.4.3. Create key frames and apply tweens and paths.
- 6.4.4. Create special effects and virtual navigation.
- 6.4.5. Create and import three-dimensional (3D) assets and environments.
- 6.4.6. Create 3D shapes through box modeling.
- 6.4.7. Create 3D shapes through NURBS.
- 6.4.8. Describe voxels and its various uses.
- 6.4.9. Render and export animations for multiple platforms.

## **Outcome: 6.5. Web Page Design**

Design and create webpages to appeal to the end user.

### **Competencies**

- 6.5.1. Identify how different devices, browsers, and operating systems affect the look of a web page.
- 6.5.2. Explain how bandwidths affect data transmission.
- 6.5.3. Describe the basic principles of Hypertext Markup Language (HTML) and its functional relationship with web browsers.
- 6.5.4. Select a web page template based on website characteristics.
- 6.5.5. Design a web page based on subject, devices, audience, layout, color, navigation, graphics, and Americans with Disabilities Act (ADA) requirements.
- 6.5.6. Organize assets for a functional web page.
- 6.5.7. Create and attach cascading style sheets (CSS).
- 6.5.8. Incorporate audio, video, graphics, and animations into a web page.
- 6.5.9. Draft, revise, edit, and proofread to check for format and text accuracy.
- 6.5.10. Execute usability tests on a completed web page, checking for information accessibility, ease of use, and navigation on multiple platforms and devices.
- 6.5.11. Publish a functioning web page for multiple devices, including advanced functionalities (e.g., database, ecommerce).
- 6.5.12. Collect and interpret data analytics.
- 6.5.13. Transfer files using file compression for transfer or storage and archiving.

## Strand 7. Performance

Learners apply knowledge and skills for performance, including roles, processes, procedures, and production design.

### **Outcome: 7.1. Interrelationships**

Examine and explore how music, dance, and theatre disciplines connect to create a production.

#### **Competencies**

- 7.1.1. Identify the similarities and differences in preparation and audition among the performing arts disciplines.
- 7.1.2. Evaluate the importance of the audience and its relationship to the performance.
- 7.1.3. Explain the differences between practice, rehearsal, tech week, and performance.
- 7.1.4. Explain the level of skill and training to reach a professional production level of a performance.
- 7.1.5. Describe and critique the elements of a performance from an audience member's perspective.
- 7.1.6. Determine the relationship among production elements including costume, scenic, lighting, video, sound, and property design.
- 7.1.7. Describe the role of the stage manager.

### **Outcome: 7.2. Genres**

Analyze and critique the stylistic differences among genres.

#### **Competencies**

- 7.2.1. Describe, compare, and contrast various styles and traditions.
- 7.2.2. Identify and compare the lives, works, and influence of significant individuals in various cultures, traditions, and historical periods.
- 7.2.3. Compare and contrast characteristics (e.g., technique, form, content) of genres from a particular time period or area of influence.
- 7.2.4. Explain the influence of social context, historical periods and culture in the development of a performance.
- 7.2.5. Identify styles and epochs in the history of music including chamber, baroque, classical, romantic, jazz, contemporary, instrumental and vocal.

### **Outcome: 7.3. Basic Movement**

Execute basic movement concepts in performance.

#### **Competencies**

- 7.3.1. Use exercises that build strength, stamina, flexibility, agility and coordination in locomotor and non-locomotor movements.
- 7.3.2. Apply appropriate alignment, isolation, strength, flexibility, agility and coordination in locomotor and non-locomotor movements.
- 7.3.3. Perform various examples of dance steps and movements within a dance genre.
- 7.3.4. Exhibit stage presence, confidence, and focus.
- 7.3.5. Exhibit aesthetic awareness, creation of line, rhythm, musicality, expression, and movement dynamics.
- 7.3.6. Perform an extended movement sequence or dance sequence from memory.

### **Outcome: 7.4. Space, Time, and Energy**

Exhibit the use of space, time, and energy through performance.

#### **Competencies**

- 7.4.1. Understand the differences among and work within theatrical and non-theatrical spaces, conventional and non-conventional spaces, and structured and unstructured spaces.
- 7.4.2. Use space and dynamics in solo and ensemble performances.
- 7.4.3. Respond to meter, rhythmic pattern, and phrasing in a performance.
- 7.4.4. Apply various patterns in performance movements.
- 7.4.5. Alter a theatrical, choreographic, or interdisciplinary performance.

### **Outcome: 7.5. Choreography**

Choreograph a dance using choreographic principles, processes, and structures.

#### **Competencies**

- 7.5.1. Apply contrast and transition using choreographic principles.
- 7.5.2. Apply processes of improvisation, reordering, and chance.
- 7.5.3. Compare and contrast the differences between abstract and narrative movements.
- 7.5.4. Choreograph dances from multiple genres.
- 7.5.5. Create a movement sequence that incorporates dance techniques and choreographic forms and principles.
- 7.5.6. Create unified ensemble movement.
- 7.5.7. Identify characteristics of group forms in an ensemble work.
- 7.5.8. Execute the use of balance, counterbalance, and the support of weight through partnering techniques.
- 7.5.9. Adapt movement to the choreographer's intent.
- 7.5.10. Apply principles of geometry (e.g. lines, space, patterns) to assemble and organize groups of people to tell a story.

### **Outcome: 7.6. Music Elements**

Distinguish the elements of music through listening.

#### **Competencies**

- 7.6.1. Identify pitch, interval, scales, solfege, and chords.
- 7.6.2. Identify meter.
- 7.6.3. Identify voice leading and harmonic progressions.
- 7.6.4. Identify the relationship between melodies and harmony.
- 7.6.5. Identify the key and tonality of a work.
- 7.6.6. Identify the rhythmic pattern of a piece of music.
- 7.6.7. Identify the instrumentation and form of a work.
- 7.6.8. Identify different instrumental and vocal timbres.
- 7.6.9. Compare and contrast rhythm, patterns, and style in a performance.
- 7.6.10. Analyze examples of a varied repertoire of music, representing diverse styles and cultures.

### **Outcome: 7.7. Musical Symbols**

Interpret musical symbols.

#### **Competencies**

- 7.7.1. Identify music notational symbols from a vocal or instrumental score.
- 7.7.2. Sight read using music theory-based systems.
- 7.7.3. Identify major, minor, and modal tonalities.
- 7.7.4. Identify rhythms in various meters.
- 7.7.5. Interpret articulations, dynamics, expressive symbols, and terms.

### **Outcome: 7.8. Musical Performance**

Perform different styles of instrumental or vocal music in solos and ensembles.

#### **Competencies**

- 7.8.1. Apply the elements of music that produce an expressive effect.
- 7.8.2. Perform, with expression and technical accuracy, a varied repertoire of particular styles or genres.
- 7.8.3. Translate the musical score into a performance.
- 7.8.4. Respond to the cues of a conductor or section leader.
- 7.8.5. Perform with attention to key, balance, intonation, phrasing, pitch, and rhythmic accuracy.
- 7.8.6. Improvise rhythmic and melodic variations over given chord progressions and symbols.
- 7.8.7. Employ the correct technique required for characteristic tone production, including posture, breath support, hand position, embouchure, and vocal placement.
- 7.8.8. Identify matching pitches from two or more sources.
- 7.8.9. Evaluate a performance, composition, arrangement, or improvisation by comparing it to similar or exemplary models.
- 7.8.10. Perform in groups and ensembles, duets, trios, etc.

### **Outcome: 7.9. Musical Composition**

Arrange, compose, and score music using notation and sequencing software.

#### **Competencies**

- 7.9.1. Analyze the form, melody, harmony, and rhythm of a composition.
- 7.9.2. Transpose musical notation.
- 7.9.3. Compose and score a musical composition in several distinct styles.
- 7.9.4. Arrange pieces for voices or instruments, other than those for which the pieces were written.
- 7.9.5. Compose or arrange music for voices and instruments.

### **Outcome: 7.10. Acting Process**

Create, research, and perform a variety of believable, multidimensional roles.

#### **Competencies**

- 7.10.1. Analyze a script and use clues, inherent in the dialogue, to create a character.
- 7.10.2. Develop vocal and physical attributes of a role using the script, direction, and imagination.
- 7.10.3. Develop the sequence of events for a role based on given circumstances.
- 7.10.4. Apply a series of everyday activities to the role using sense memory.
- 7.10.5. Develop the physical, social, and emotional elements of a character through action.
- 7.10.6. Express a variety of characters and different theatrical styles through vocal qualities, posture, movement, and language.
- 7.10.7. Sustain a character as an actor in an ensemble rehearsal and performance.
- 7.10.8. Identify and execute inner monologue, personal imagery, imaginative imagery, personal associations, and elements of action.
- 7.10.9. Research different social contexts of character relationships, classes, and situations.
- 7.10.10. Apply presentational, representational, and experimental acting techniques to a performance.
- 7.10.11. Evaluate collaborative efforts and artistic choices in informal and formal productions.
- 7.10.12. Develop memorization techniques for performance.

### **Outcome: 7.11. Production Management**

Assign roles, functions, and procedures based on a script or production plan.

#### **Competencies**

- 7.11.1. Identify the stages in the production process.
- 7.11.2. Describe the function and responsibilities of individuals involved in creating, planning, scheduling, and producing a production.
- 7.11.3. Develop script formats, interpretations, subjects, production choices and ideas.
- 7.11.4. Secure talent and a location.
- 7.11.5. Manage personnel and workflow.
- 7.11.6. Align the scenes and cast with the script or production plan.

## **Outcome: 7.12. Production Design**

Adapt the elements of stagecraft to a script or production plan.

### **Competencies**

- 7.12.1. Create a design that captures the director's vision and concept.
- 7.12.2. Create a design using standard production elements.
- 7.12.3. Integrate all design elements (e.g., costuming, scenery, lighting, audio, projections, videos, and properties) to reflect the mood, setting, and socioeconomic statuses indicated in the production plan.
- 7.12.4. Determine stage rigging based on stage configuration.
- 7.12.5. Create appropriate visual design documentation (e.g. renderings, light plots, ground plans, models, thumbnails sketches) for the various technical theatre fields.
- 7.12.6. Identify properties and set dressing and their functions and placements in a production.
- 7.12.7. Identify how highlights and shadows, scenic elements, makeup, costuming, lighting, video, projection, etc. are perceived by a live audience.
- 7.12.8. Interpret the elements of a simple light plot.
- 7.12.9. Execute a lighting design.
- 7.12.10. Identify and describe the various positions of a running crew (e.g. deck electrician, scenic running crew, rail operator, props master, wardrobe manager, costuming crew, etc.).
- 7.12.11. Identify and describe the tools used in the scene shop and classify them by purpose (eg. marking, cutting, boring, drilling, shaping, securing, clapping, etc.).
- 7.12.12. Build basic theatrical scenic items (flats, platforms, stairs, molding, etc.).
- 7.12.13. Organize and track materials and props through the course of a production.
- 7.12.14. Identify types of rigging systems used in theatrical spaces.
- 7.12.15. Identify theatrical lighting fixtures and equipment.

### **Outcome: 7.13. Costuming**

Create and apply wardrobe, hair style, and makeup for a performance.

#### **Competencies**

- 7.13.1. Develop a character analysis to create costuming for production.
- 7.13.2. Create renderings to illustrate design choices based on a script analysis or production plan.
- 7.13.3. Create and interpret a costume plot to track the movement and specific costuming needs of characters in a play, including quick changes.
- 7.13.4. Render costume concepts to scale.
- 7.13.5. Develop a plan to create costumes that are functional and artistically effective.
- 7.13.6. Compare and contrast the various methods of acquiring costuming within the confines of a budget.
- 7.13.7. Apply wardrobe, hair, and makeup to convey the mood, character, setting and social status of a character.
- 7.13.8. Create well-crafted, functional garments using basic and advanced machine and hand sewing techniques.
- 7.13.9. Adapt commercial sewing patterns for theatrical use.
- 7.13.10. Describe the relationship among costume, scenic, lighting, video, and sound designers.

### **Outcome: 7.14. Performance Demands**

Meet the physical, vocal, and psychological demands of performance.

#### **Competencies**

- 7.14.1. Apply the warm-up process and other techniques that prevent strain on various parts of the body and voice.
- 7.14.2. Recognize the levels of physical and mental stress as potential risk factors to the body's various movements.
- 7.14.3. Develop techniques to enhance a performance based on the knowledge of anatomy and physiology.
- 7.14.4. Develop a nutrition plan and lifestyle choices that support optimal performance and reduce stress and injury.
- 7.14.5. Anticipate the physical requirements of a performance.
- 7.14.6. Overcome psychological stresses to minimize their impacts on a performance.
- 7.14.7. Demonstrate strategies to manage and relieve anxieties.

### **Outcome: 7.15. Rehearsal and Audition**

Establish skills and habits necessary for auditions, individual practice and rehearsals.

#### **Competencies**

- 7.15.1. Plan for different types of auditions and adapt to in-person, audio and video format requirements.
- 7.15.2. Select the audition material that meets the expectations of the company or individual holding the audition.
- 7.15.3. Prepare physically and mentally for rehearsal and audition demands.
- 7.15.4. Critique the strengths and weaknesses of a performance during rehearsal.
- 7.15.5. Prepare for an audition by identifying required elements including pre-screens, reels, portfolios, resumes, headshots, and websites.