Ohio CTE

Arts and Communication

Business Operations/21st 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. 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.** 1.1

1 Identify the knowledge, skills and abilities necessary to succeed in careers. 1.1.1

2 Identify the scope of career opportunities and the requirements for education, training, certification, licensure and experience (e.g., interdependence of technical and artistic elements). 1.1.2

3 Develop a career plan that reflects career interests, pathways and secondary and postsecondary options. 1.1.3

4 Describe the role and function of professional organizations, industry associations and organized labor and use networking techniques to develop and maintain professional relationships. 1.1.4

5 Develop strategies for self-promotion in the hiring process (e.g., filling out job applications, resumé writing, interviewing skills, portfolio development). 1.1.5

6 Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community and workplace roles. 1.1.6

7 Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions. 1.1.7

8 Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism. 1.1.8

9 Give and receive constructive feedback to improve work habits. 1.1.9

10 Adapt personal coping skills to adjust to taxing workplace demands. 1.1.10

11 Recognize different cultural beliefs and practices in the workplace and demonstrate respect for them. 1.1.11

12 Identify healthy lifestyles that reduce the risk of chronic disease, unsafe habits and abusive behavior. 1.1.12

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2 **Leadership and Communications: Process, maintain, evaluate and disseminate information in a business. Develop leadership and team building to promote collaboration.** 1.2

1 Extract relevant, valid information from materials and cite sources of information (e.g., First Amendment, Freedom of Information Act). 1.2.1

Deliver formal and informal presentations. 1.2.2

Skip to main content

3 Identify and use verbal, nonverbal and active listening skills to communicate effectively. 1.2.3

4 Use negotiation and conflict-resolution skills to reach solutions. 1.2.4

5 Communicate information (e.g., directions, ideas, vision, workplace expectations) for an intended audience and purpose. 1.2.5

6 Use proper grammar and expression in all aspects of communication. 1.2.6

7 Use problem-solving and consensus-building techniques to draw conclusions and determine next steps. 1.2.7

8 Identify the strengths, weaknesses and characteristics of leadership styles that influence internal and external workplace relationships. 1.2.8

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). 1.2.9

10 Use interpersonal skills to provide group leadership, promote collaboration and work in a team (e.g., writer, reporter, designer, director, actor, conductor, technical crew). 1.2.10

11 Write professional correspondence, documents, job applications and resumés. 1.2.11

12 Use technical writing skills to complete forms and create reports. 1.2.12

13 Identify stakeholders and solicit their opinions. 1.2.13

14 Use motivational strategies to accomplish goals. 1.2.14

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3 **Business Ethics and Law: Analyze how professional, ethical and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.** 1.3

1 Analyze how regulatory compliance affects business operations and organizational performance. 1.3.1

2 Follow protocols and practices necessary to maintain a clean, safe and healthy work environment. 1.3.2

3 Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice). 1.3.3

4 Identify how federal and state consumer protection laws affect products and services. 1.3.4

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. 1.3.5

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. 1.3.6

Skip to main content

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]). 1.3.7

8 Verify compliance with computer and intellectual property laws and regulations. 1.3.8

9 Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational and professional ethical standards. 1.3.9

4 **Knowledge Management and Information Technology: Demonstrate current and emerging strategies and technologies used to collect, analyze, record and share information in business operations.** 1.4

1 Use office equipment to communicate (e.g., phone, radio equipment, fax machine, scanner, public address systems). 1.4.1

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). 1.4.2

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. 1.4.3

4 Use system hardware to support software applications (e.g., innovations in imaging and screen printing). 1.4.4

5 Use information technology tools to maintain, secure and monitor business records. 1.4.5

6 Use an electronic database to access and create business and technical information. 1.4.6

7 Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books). 1.4.7

8 Use electronic media (e.g., social media) to communicate and follow network etiquette guidelines. 1.4.8

5 **Global Environment: Evaluate how beliefs, values, attitudes and behaviors influence organizational strategies and goals.** 1.5

1 Describe how cultural understanding, cultural intelligence skills and continual awareness are interdependent. 1.5.1

2 Describe how cultural intelligence skills influence the overall success and survival of an organization. 1.5.2

3 Use cultural intelligence to interact with individuals from diverse cultural settings. 1.5.3

4 Recognize barriers in cross-cultural relationships and implement behavioral adjustments. 1.5.4

Skip to main content

5 Recognize the ways in which bias and discrimination may influence productivity and profitability. 1.5.5

6 Analyze work tasks for understanding and interpretation from a different cultural perspective. 1.5.6

7 Use intercultural communication skills (e.g., code switching) to exchange ideas and create meaning. 1.5.7

8 Identify how multicultural teaming and globalization can foster development of new and improved products and services (e.g., digital) and recognition of new opportunities. 1.5.8

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6 **Business Literacy: Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.** 1.6

1 Identify business opportunities. 1.6.1

2 Assess the reality of becoming an entrepreneur, including advantages and disadvantages (e.g., risk versus reward, reasons for success and failure). 1.6.2

3 Explain the importance of planning your business. 1.6.3

4 Identify types of businesses, ownership and entities (i.e., individual proprietorships, partnerships, corporations, cooperatives, public, private, profit, not-for-profit). 1.6.4

5 Describe organizational structure, chain of command, the roles and responsibilities of the organizational departments and interdepartmental interactions. 1.6.5

6 Identify the target market served by the organization, the niche that the organization fills and an outlook of the industry. 1.6.6

7 Identify the effect of supply and demand on products and services. 1.6.7

8 Identify the features and benefits that make an organization's product or service competitive. 1.6.8

9 Explain how the performance of an employee, a department and an organization is assessed. 1.6.9

10 Describe the impact of globalization on an enterprise or organization. 1.6.10

11 Describe how all business activities of an organization work within the parameters of a budget. 1.6.11

12 Describe classifications of employee benefits, rights, deductions and compensations. 1.6.12

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7 **Entrepreneurship/Entrepreneurs: Analyze the environment in which a business operates and the economic factors and opportunities associated with self-employment.** 1.7

1 Compare and contrast the four types of business ownership (i.e., individual proprietorships, partnerships, corporations, cooperatives). 1.7.1

2 Explain the role of profit as the incentive to entrepreneurs in a market economy. 1.7.2

Skip to main content

3 Identify the factors that contribute to the success and failure of entrepreneurial ventures. 1.7.3

4 Assess the roles of nonprofit and for-profit businesses. 1.7.4

5 Develop a business plan. 1.7.5

6 Describe life cycles of an entrepreneurial business and an entrepreneur. 1.7.6

7 Create a list of personal strengths, weaknesses, skills and abilities needed to be successful as an entrepreneur. 1.7.7

8 Explain pathways used to become an entrepreneur. 1.7.8

9 Conduct a self-assessment to determine entrepreneurial potential. 1.7.9

10 Describe techniques for obtaining experience (e.g., apprenticeship, co-operative [co-op] education, work placement, internship, job shadowing) related to an entrepreneurial objective. 1.7.10

11 Identify initial steps in establishing a business (e.g., limited liability company [LLC], tax ID, permits, insurance, licensing). 1.7.11

12 Identify resources available to entrepreneurs (e.g., Small Business Administration, mentors, information resources, educational opportunities, grants for artistic support). 1.7.12

13 Protect intellectual property and knowledge (e.g., copyright, patent, trademark, trade secrets, processes). 1.7.13

Skip to main content

8 **Operations Management: Plan, organize and monitor an organization or department to maximize contribution to organizational goals and objectives.** 1.8

1 Forecast future resources and budgetary needs using financial documents (e.g., balance sheet, demand forecasting, financial ratios). 1.8.1

2 Select and organize resources to develop a product or a service. 1.8.2

3 Analyze the performance of organizational activities and reallocate resources to achieve established goals. 1.8.3

4 Identify alternative actions to take when goals are not met (e.g., changing goals, changing strategies, efficiencies). 1.8.4

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). 1.8.5

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. 1.8.6

7 Collect information and feedback to help assess the organization's strategic planning and policymaking processes. 1.8.7

8 Identify routine activities for maintaining business facilities and equipment. 1.8.8

9 Develop a budget that reflects the strategies and goals of the organization. 1.8.9

10 Analyze how business management and environmental management systems (e.g., health, safety) contribute to continuous improvement and sustainability. 1.8.10

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.** 1.9

1 Create, analyze and interpret financial documents (e.g., budgets, income statements). 1.9.1

2 Identify tax obligations (i.e., opportunities for deductions). 1.9.2

3 Review and summarize savings, investment strategies and purchasing options (e.g., cash, lease, finance, stocks, bonds). 1.9.3

4 Identify credit types and their uses in order to establish credit. 1.9.4

5 Identify ways to avoid or correct debt problems. 1.9.5

6 Explain how credit ratings and the criteria lenders use to evaluate repayment capacity affect access to loans. 1.9.6

7 Review and summarize categories (types) of insurance and identify how insurances can reduce financial risk. 1.9.7

8 Identify income sources and expenditures. 1.9.8

9 Compare and contrast different banking services available through financial institutions. 1.9.9

0 Identify the role of depreciation in tax planning and liability. 1.9.10

Skip to main content

10 **Sales and Marketing: Manage pricing, place, promotion, packaging, positioning and public relations to improve quality customer service.** 1.10

1 Identify how the roles of sales, advertising and public relations contribute to a company's brand. 1.10.1

2 Determine the customer's needs and identify solutions. 1.10.2

3 Communicate features, benefits and warranties of a product or service to the customer. 1.10.3

4 Identify the company policies and procedures for initiating product and service improvements. 1.10.4

5 Monitor customer expectations and determine product/service satisfaction by using measurement tools. 1.10.5

6 Discuss the importance of correct pricing to support a product's or service's positioning in the marketing mix. 1.10.6

7 Describe the importance and diversity of distribution channels (i.e., direct, indirect) to sell a product. 1.10.7

8 Use promotional techniques to maximize sales revenues (e.g., advertising, sales promotions, publicity, public relations). 1.10.8

9 Describe how product mix (e.g., product line, product items) maximizes sales revenues, market, share and profit margin. 1.10.9

10 Demonstrate sales techniques. 1.10.10

11 **Principles of Business Economics: Examine and employ economic principles, concepts and policies to accomplish organizational goals and objectives.** 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). 1.11.1

2 Identify the difference between monetary and nonmonetary incentives and explain how changes in incentives cause changes in behavior. 1.11.2

3 Use economic indicators to identify economic trends (e.g., deregulation) and conditions (e.g., inflation, interest rate fluctuations, unemployment rates). 1.11.3

4 Determine how the quality, quantity and pricing of goods and services are affected by domestic and international competition in a market economy. 1.11.4

5 Analyze factors that affect currency and exchange rates. 1.11.5

6 Explain how financial markets and government policies influence interest rates (credit ratings/debt ceiling), trade deficits and unemployment. 1.11.6

7 Describe how economic performance and culture are interdependent. 1.11.7

8 Identify the relationships between economy, society and environment that lead to sustainability (e.g., evolution and impact of the arts). 1.11.8

9 Describe how laws and regulations influence domestic and international trade. 1.11.9

Skip to main content

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. 2

1 **Art Elements and Design Principles: Analyze works of art for the art elements and the design principles needed to create professional products.** 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. 2.1.1

2 Identify specific characteristics (i.e., positive and negative, organic, geometric, quality, weight, direction) of art elements that communicate and express ideas. 2.1.2

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. 2.1.3

4 Compare and contrast unity and variety within a design. 2.1.4

5 Contrast formal/symmetrical, informal/asymmetrical and radial balance. 2.1.5

6 Observe movement shown through repetition, pattern and rhythm. 2.1.6

7 Interpret emphasis through contrast, isolation, size and placement. 2.1.7

8 Identify visual hierarchy used to establish dominance. 2.1.8

9 Recognize the use of proportion/scale. 2.1.9

2 **Color Theory: Assess the use of color for commercial design.** 2.2

1 Explain the science of color perception using the electromagnetic spectrum. 2.2.1

2 Analyze position in color theory models (e.g., color wheel; Munsell's design relationship among chroma/intensity, value/lightness and hue). 2.2.2

3 Describe how changes to tint, shade, hue, value, intensity and saturation relate to color theory. 2.2.3

4 Identify gamut output issues and calibrate color. 2.2.4

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). 2.2.5

6 Replicate color across multiple mediums accommodating how color changes from the monitor to the final product (e.g., coated and uncoated papers, metallic, color-calibrated monitors). 2.2.6

7 Compare and contrast additive and subtractive color theory (e.g., RGB, CMYK). 2.2.7

8 Compare and contrast choices using the psychology of color. 2.2.8

9 Critique the use of color schemes (e.g., primary, secondary, tertiary, analogous, complementary, triads, monochromatic) in various media. 2.2.9

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.** 2.3

1 Render a proportionately correct portrait and figure drawing. 2.3.1

2 Draw in one-point, two-point, multi-point and aerial perspectives. 2.3.2

Skip to main content

3 Apply color using pencil, marker, dry media, wet media and digital media. 2.3.3

4 Demonstrate shape, volume, depth and dimension. 2.3.4

5 Employ techniques that produce actual and implied texture (e.g., filters, embroidery, embossing, clay, wax, wood, metal). 2.3.5

6 Select the material based on its characteristics (e.g., design, construction, maintenance, care of product) for the intended use. 2.3.6

7 Create a 3D design according to specific measurements using drawing, cutting, scoring and bonding techniques. 2.3.7

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4 Visual Layouts: Create layouts for pre-production and analyze the communicative effects on the commercial product. 2.4

1 Create thumbnail and rough sketches. 2.4.1

2 Apply the proper color profile for the final output. 2.4.2

3 Create single and multi-color layouts using images and formats. 2.4.3

4 Use process color and spot color separations. 2.4.4

5 Differentiate between raster- and vector-based layouts. 2.4.5

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. 2.4.6

7 Determine composition, formal qualities, scale and use of space. 2.4.7

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. 2.4.8

9 Create visual continuity among a variety of products. 2.4.9

10 Determine how the technical characteristics of the print medium affect content and style. 2.4.10

11 Calculate finishing requirements in a layout (e.g., registration marks, bleed, slugs). 2.4.11

12 Evaluate the product in terms of the message or meaning for the targeted audience. 2.4.12

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5 Typography: Apply typographical elements for a commercial presentation. 2.5

1 Select typefaces (e.g., serif, sans serif). 2.5.1

2 Apply typography kerning and leading to typefaces for readability. 2.5.2

3 Use typographic measurements in terms of picas, points, pixels and ems. 2.5.3

4 Mix families of type within a project. 2.5.4

5 Use typography as a primary component of logo design. 2.5.5

Determine the effect of various font types on operating systems. 2.5.6

Skip to main content

7 Assess typography's effects on message delivery and aesthetics (e.g., limit families, readability). 2.5.7

Written Content Creation: Learners apply content creation knowledge and skills to use the intended message for entertainment, journalism or marketing purposes. 3

1 **Career-based Writing: Develop basic skills and knowledge related to fact-, entertainment- and marketing-based copy.** 3.1

1 Analyze the writing content and styles of fact-, entertainment- and marketing-based models. 3.1.1

2 Compare and contrast fiction and nonfiction. 3.1.2

3 Assess or determine the platform for delivery (e.g., video, audio, print). 3.1.3

4 Compare and contrast vocabulary, transition words, diction and sentence structure within writing models. 3.1.4

5 Create copy that emphasizes the central theme through supporting ideas or facts. 3.1.5

6 Adapt writing for the literacy level of the audience, including the use of readability software. 3.1.6

7 Critique timeliness, effect and proximity characteristics of copy. 3.1.7

8 Meet word count and organization-sensitive requirements. 3.1.8

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. 3.1.9

10 Select visual imagery to support or enhance copy. 3.1.10

11 Review, re-write and edit to prepare the final copy for client and artistic approval. 3.1.11

12 Critique the impact of your writing and incorporate feedback in a revision. 3.1.12

2 **Entertainment-based Writing: Produce copy for products designed for amusement and enjoyment.** 3.2

1 Compare and contrast entertainment-based models of content created for print, electronic, audio, video and audio-visual genres. 3.2.1

2 Compare and contrast writing to be read and writing to be performed. 3.2.2

3 Brainstorm the theme and plot through outlining or storyboarding. 3.2.3

4 Create copy in verse format using imagery and symbolism to express sensory details and enhance meaning. 3.2.4

5 Create copy with appropriate tone and content for the speaker or performer. 3.2.5

6 Annotate copy with phonetic spelling for the speaker or performer. 3.2.6

7 Create text for fiction and non-fiction artistic genres. 3.2.7

8 Create fiction and non-fiction scripts for various media. 3.2.8

Develop provocative and persuasive audio essays. 3.2.9

Skip to main content

10 Determine how the script dictates various elements, including setting, music and blocking. 3.2.10

11 Create script for stage, radio, libretti, television and film. 3.2.11

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3 Fact-based Writing: Write concise and focused copy for journalism. 3.3

1 Determine what information is newsworthy. 3.3.1

2 Write stories in basic news style using the inverted pyramid to identify who, what, when, where, why and how. 3.3.2

3 Identify positions from research and resources while remaining objective. 3.3.3

4 Compare and contrast objective and subjective fact-based text. 3.3.4

5 Engage and synthesize primary, secondary, quantitative and qualitative research. 3.3.5

6 Conduct primary source interviews using face-to-face and electronic programming. 3.3.6

7 Follow protocol for off-the-record information. 3.3.7

8 Design a story lead based on purpose and audience. 3.3.8

9 Create objective and subjective informational text for multiple purposes, including editorial, press releases, biographies, narratives, public service announcements and social media. 3.3.9

10 Apply direct, indirect and partial quotes. 3.3.10

11 Create content format, length and flow based on purpose, audience and channel. 3.3.11

12 Create specialized stories. 3.3.12

13 Engage symmetrical and asymmetrical strategies in the creation and revision of content. 3.3.13

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4 Market-based Writing: Write concise, creative, memorable, sellable copy for advertising, public relations and proposals. 3.4

1 Research and analyze trends and local markets for opportunities. 3.4.1

2 Determine the wants and needs of the target audience. 3.4.2

3 Communicate brand image and product value. 3.4.3

4 Create subjective text to market products, including posters, advertising jingles and opening sequences for television. 3.4.4

5 Synthesize ideas for primary and secondary messages. 3.4.5

6 Apply the product, price, promotion and placement components of marketing. 3.4.6

7 Implement the voice of the customer in branding. 3.4.7

Skip to main content

Create and revise messages for word-of-mouth, advertising and social media channels. 3.4.8

9 Critique advertisements to ensure the achievement of goals and objectives. 3.4.9

10 Apply channels of direct mail, online, email, Web and social media strategies. 3.4.10

Audio, Video and Photo Imaging: Learners apply knowledge and skills of photography and videography to capture, engineer and manipulate audio, images and video for a media production. 4

1 **Science of Sound: Apply the characteristics and properties of sound to a professional production.** 4.1

1 Analyze sound by its properties, including amplitude, frequency, wavelength, velocity, diffraction, diffusion, phase and harmonics. 4.1.1

2 Classify elements in sound transduction, including resistance, balanced versus unbalanced lines and how sound energy is converted into electrical energy. 4.1.2

3 Identify sound as measured or perceived. 4.1.3

4 Identify sound pressure level (SPL). 4.1.4

5 Analyze acoustics and their impact on sound. 4.1.5

6 Apply the principles of direct sound, early reflection and reverberation. 4.1.6

7 Deconstruct the four elements of a waveform signal. 4.1.7

8 Apply the principles of digital audio theory (e.g., sampling rate, Nyquist Theorem). 4.1.8

2 **Audio Capturing: Apply the principles and properties of how sound is measured, converted and perceived to capture an audio recording for professional purposes.** 4.2

1 Determine sound recording requirements. 4.2.1

2 Compare and contrast microphone properties (e.g., polar patterns, type of transducer) with their intended use (e.g., handheld, wireless, boom). 4.2.2

3 Determine microphone and speaker placement, according to their directional characteristics. 4.2.3

4 Record on dual system devices. 4.2.4

5 Import audio using analog-to-digital interfaces (e.g., Musical Instrument Digital Interface [MIDI], breakout boxes). 4.2.5

6 Organize a production from audio recording to distributing. 4.2.6

7 Distinguish among digital media formats (e.g., .mp3, .mp4, .wav, .aiff). 4.2.7

8 Select a score for production and post-production needs. 4.2.8

3 **Audio Operations: Manipulate recordings for professional purposes.** 4.3

1 Produce live sound, tracks and overdubbing (e.g., narrative, voiceover, music). 4.3.1

2 Apply the principles of compression and limiting. 4.3.2

3 Differentiate between linear and non-linear transfers. 4.3.3

4 Synchronize new audio tracks with previously recorded video and audio tracks. 4.3.4

Skip to main content

5 Perform audio mixing, including relative level, spatial positioning, equalization, dynamics processing and effects processing). 4.3.5

6 Apply virtual mixing techniques. 4.3.6

7 Apply the principles of time-based effects. 4.3.7

8 Synchronize sound effects for film, television, radio or live performances. 4.3.8

9 Adjust sound according to the needs of the environment. 4.3.9

10 Select and place audio amplifiers, speakers and monitors for the planned effect. 4.3.10

11 Eliminate feedback by applying principles of electronics equalization. 4.3.11

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4 Lighting: Measure and manipulate lighting based on the characteristics and properties of light. 4.4

1 Measure light levels using a light exposure meter. 4.4.1

2 Employ the characteristics (e.g., hard light, diffused light, incident light) and properties of light. 4.4.2

3 Manipulate and direct light using ratios, gels, filters, diffusion and gobos. 4.4.3

4 Implement lighting techniques (e.g., four-point, bounce, high-key, low-key, cross-key, mixed) to produce specific effects. 4.4.4

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5 Photography: Capture and edit still images for commercial purposes. 4.5

1 Analyze the capabilities of different image capturing devices. 4.5.1

2 Clean and maintain camera equipment. 4.5.2

3 Identify the effects of ISO settings on image quality. 4.5.3

4 Achieve proper exposure through light, shutter speed and aperture. 4.5.4

5 Affect apparent motion through shutter speed. 4.5.5

6 Manipulate aperture settings to alter depth of field. 4.5.6

7 Alter image through focus, white balance, exposure modes and polarization. 4.5.7

8 Capture images through various lenses and camera angles. 4.5.8

9 Modify images through sizing, cropping and output resolution. 4.5.9

10 Modify an image through color-management and special effects. 4.5.10

11 Enhance an image with tone, contrast, filters, composites and sharpening techniques. 4.5.11

12 Retouch an image by cloning, healing, patching and rebuilding. 4.5.12

13 Integrate image capture with post-production processes. 4.5.13

14 Capture multiple images and render them in high dynamic range. 4.5.14

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6 Videography: Shoot video for professional and archival purposes. 4.6

Skip to main content

1 Analyze the capabilities of different video devices. 4.6.1

2 Select, prepare, clean and maintain equipment for a production. 4.6.2

3 Achieve proper exposure and depth of field using gain, white balance, focus, focal length, audio controls, bars and tone. 4.6.3

4 Select file format, frame speed and resolution. 4.6.4

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. 4.6.5

6 Apply screen direction using vectors (e.g., motion, index, graphic). 4.6.6

7 Create steady shots and smooth camera movements using handheld techniques, tripods and other stabilizing equipment. 4.6.7

8 Create slow/fast motion effect by adjusting shutter speed. 4.6.8

9 Log video during shooting. 4.6.9

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7 Audio/Video Editing: Edit post-production audio or video for commercial purposes. 4.7

1 Compare and contrast linear and nonlinear digital editing systems for audio/video. 4.7.1

2 Import and log media for editing. 4.7.2

3 Manage files of digital clips. 4.7.3

4 Use storyboard techniques to place media on a timeline. 4.7.4

5 Correct color, condense and enhance a video production. 4.7.5

6 Edit audio or video online and offline with transitions, cutting points, order of shots and continuity. 4.7.6

7 Add special effects to a video through filters, keying and image control. 4.7.7

8 Mix audio for video through filters, ambient sound, sound effects, equalization (EQ) and matching levels. 4.7.8

9 Create graphics for video products (e.g., titles, still images). 4.7.9

10 Export and upload media in the appropriate format (e.g., print to video, DVD, video file). 4.7.10

Print Production Process: Learners apply knowledge and skills to produce print or digital products. 5

1 File Preflight: Preflight files before printing. 5.1

1 Load customer files on a prepress system and open in a design application. 5.1.1

2 Compare the on-screen layout to the customer proof. 5.1.2

3 Examine the page format for production or output issues, including pagination, bleeds, folds, imposition, total ink coverage and color separations. 5.1.3

4 Examine font and picture usage for mapping, alignment, linking and resolution issues. 5.1.4

Skip to main content

Identify color correction factors, including assignment, gamut, dot gain, screen angles, trapping, gray balance and rich black. 5.1.5

6 Troubleshoot files coded with computer programming language. 5.1.6

7 Confirm file accuracy through test printing. 5.1.7

2 **File Output: Output files for print production.** 5.2

1 Determine the resolution of the output device. 5.2.1

2 Apply color management through a calibrated system. 5.2.2

3 Manage output factors, including file management and raster image processing. 5.2.3

4 Interpret printers' marks. 5.2.4

5 Verify that imagesetter materials and settings are correct. 5.2.5

6 Compare image carrier generation methods, including computer-to-plate [CTP], film based, screen and flexography. 5.2.6

7 Analyze factors for image carrier issues, including depleted chemistry and light leak. 5.2.7

8 Check color separations. 5.2.8

3 **Offset Image Control Systems: Set up substrate and image control systems for printing.** 5.3

1 Describe substrate transport pathways. 5.3.1

2 Apply color matching specifications for industry recognized systems. 5.3.2

3 Maintain conductivity and pH levels for offset printing. 5.3.3

4 Set up and adjust register systems. 5.3.4

5 Maintain image density and coverage. 5.3.5

6 Compare drying methods, including heat, oxidation, ultraviolet [UV], additives and infrared. 5.3.6

7 Preserve image carriers. 5.3.7

8 Select ink types based on their properties and product specifications. 5.3.8

4 **Printed Images: Create printed images according to the client's approved proof.** 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. 5.4.1

2 Interpret color bars. 5.4.2

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). 5.4.3

4 Analyze the effects of process color output on various substrates (e.g., paper, plastic, recycled materials). 5.4.4

5 Analyze and maintain print quality controls for offset, wide-format inkjet and laser formats. 5.4.5

6 Produce copies following project specifications. 5.4.6

Skip to main content

7 Identify the image quality factors that are measured by a densitometer and a spectrophotometer and other quality control devices. 5.4.7

5 **Digital Print Methods: Analyze digital print technologies for digital and offset production.** 5.5

1 Identify digital printing technologies and uses, including laser, toner-based xerography, ink-based digital and wide-format inkjet. 5.5.1

2 Create digital masters for production, including offset and digital ink-based printing. 5.5.2

3 Analyze the raster image processor (RIP), including its functionality, purpose and significance in a digital printing workflow. 5.5.3

4 Identify the types of file formats that can be sent to a RIP. 5.5.4

5 Compare digital printing to offset printing. 5.5.5

6 Compare and contrast proofing techniques used in digital and offset printing technologies. 5.5.6

7 Compare the differences between colorants and substrates used in digital printing versus offset printing. 5.5.7

8 Identify substrate-related print quality issues as they relate to digital printing. 5.5.8

9 Identify the basic subsystems and the functions of the components of digital output devices. 5.5.9

6 **Digital Production Printing: Produce digital print jobs on digital print systems.** 5.6

1 Use database software and text/graphics to create a variable data printing job. 5.6.1

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. 5.6.2

3 Determine the proper output device according to job specifications. 5.6.3

4 Select finishing methods within the output software, including stitching, folding, booklet-making and hole-punching. 5.6.4

5 Manage output product types for digital printing. 5.6.5

6 Print black-and-white and process-color jobs on coated and uncoated paper. 5.6.6

7 Analyze the capabilities of three-dimensional (3D) printing. 5.6.7

7 **Screen Printing and Embroidery: Engage screen printing and embroidery operations.** 5.7

1 Identify substrates and their marketable applications in screen printing and embroidery. 5.7.1

Skip to main content

Compare the differences in screen printing inks and embroidery threads. 5.7.2

3 Adjust the factors that determine the quality of the impression (e.g., angle, pressure, speed, composition). 5.7.3

4 Compare light-emitting diode (LED) lamps to medium-pressure mercury lamps and select the lamp for the given screen printing purpose. 5.7.4

5 Explain image digitization for embroidery purposes. 5.7.5

6 Explain stitch count and hoop size, using embroidery software. 5.7.6

7 Perform maintenance on embroidery machines. 5.7.7

8 Create final print materials for screen printing and embroidery and verify printing quality. 5.7.8

9 Dry or cure printed objects for screen printing projects. 5.7.9

10 Reclaim screens and waste materials for screen printing projects. 5.7.10

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8 **Binding and Finishing: Evaluate post image transfer finishing methods and techniques.** 5.8

1 Identify post image transfer finishing requirements. 5.8.1

2 Describe and identify inline- and offline-finishing systems. 5.8.2

3 Explain specifications for folding and using mockups. 5.8.3

4 Fold products, using single-, letter- and tri-fold. 5.8.4

5 Score and perforate products. 5.8.5

6 Bind products through drilling, perfect binding and saddle and flat stitching techniques. 5.8.6

7 Finish a saddle-stitched product through in-line, near-line and off-line methods. 5.8.7

8 Identify requirements for padding. 5.8.8

9 Apply specialty finishing processes, including thermography, foil stamping, embossing and die cutting. 5.8.9

10 Calculate basic paper cuts and strategies. 5.8.10

11 Assemble three-dimensional (3D) products (e.g., packaging, promotional and point-of-purchase displays, folders, pop-up books). 5.8.11

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 mu ap

1 **Content Management: Import, store, export and manage digital assets.** 6.1

1 Identify the characteristics that make media interactive. 6.1.1

2 Compare how digital and interactive media are used in different environments (e.g., kiosks, electronic billboards, Digital Out of Home [DOoH] signage, games). 6.1.2

3 Select an application according to its capabilities in meeting the purpose and budget. 6.1.3

4 Import media into the selected application. 6.1.4

Skip to main content

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. 6.1.5

6 Convert file formats for use in editing software and other applications. 6.1.6

7 Export media in the appropriate format for delivery. 6.1.7

8 Manage digital assets through organizational techniques (e.g., metadata, keywords, file/folder structure, name conventions). 6.1.8

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2 Scanning: Apply scanning techniques and procedures to capture images for design. 6.2

1 Describe the relationship between lines per inch (LPI) and dots per inch (DPI). 6.2.1

2 Describe the relationship between resolution and file size. 6.2.2

3 Manipulate input functions and calibrate scanning equipment (e.g., descreening, gamma, resolution). 6.2.3

4 Scan images. 6.2.4

5 Save images in various modes, resolutions and formats. 6.2.5

6 Scale, size and adjust file resolution for multiple uses. 6.2.6

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3 Graphics: Create and manipulate two-dimensional (2D) and three-dimensional (3D) digital graphics. 6.3

1 Draw digital graphics. 6.3.1

2 Manipulate the attributes of graphics (e.g., color, shape, size, texture). 6.3.2

3 Arrange graphics using layers. 6.3.3

4 Select a graphic file format based on compression, resolution and file size. 6.3.4

5 Optimize and export graphic files for intended use. 6.3.5

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4 Animation: Create digital animation. 6.4

1 Develop a plan and storyboard for an animation. 6.4.1

2 Import two-dimensional (2D) and three-dimensional (3D) assets. 6.4.2

3 Create key frames and apply tweens and paths. 6.4.3

4 Create special effects and virtual navigation. 6.4.4

5 Create environments for 2D and 3D animations. 6.4.5

6 Render and export animations. 6.4.6

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5 Web Page Design: Design and create webpages to appeal to the end user. 6.5

1 Identify how different devices, browsers and operating systems affect the look of a web page. 6.5.1

Skip to main content

Explain how bandwidths affect data transmission. 6.5.2

3 Describe the basic principles of Hypertext Markup Language (HTML) and its functional relationship with web browsers. 6.5.3

4 Select a web page template based on website characteristics. 6.5.4

5 Design a web page based on subject, devices, audience, layout, color, navigation, graphics and Americans with Disabilities Act (ADA) requirements. 6.5.5

6 Organize assets for a functional web page. 6.5.6

7 Create and format ordered and unordered lists on a web page. 6.5.7

8 Create and format a table on a web page. 6.5.8

9 Integrate inline styles. 6.5.9

10 Create and attach cascading style sheets (CSS). 6.5.10

11 Design a data entry form from specifications that will accept a variety of user inputs (e.g., radio buttons, text entry fields, check boxes, drop-down menus). 6.5.11

12 Incorporate audio, video, graphics and animations into a web page. 6.5.12

13 Create rollovers, text wraps and hyperlinks. 6.5.13

14 Draft, revise, edit and proofread to check for format and text accuracy. 6.5.14

15 Execute usability tests on a completed web page, checking for information accessibility, ease of use and navigation on multiple platforms and devices. 6.5.15

16 Publish a functioning web page for multiple devices, including advanced functionalities (e.g., database, ecommerce). 6.5.16

17 Collect and interpret data analytics. 6.5.17

18 Transfer files using file compression for transfer or storage. 6.5.18

Performance: Learners apply knowledge and skills for performance, including roles, processes, procedures and production design. 7

1 **Interrelationships: Examine and explore how music, dance and theatre disciplines connect to create a production.** 7.1

1 Identify the similarities in preparation and audition among the performing arts disciplines. 7.1.1

2 Evaluate the importance of the audience and its relationship to the performance. 7.1.2

3 Describe how the level of training impacts a performance. 7.1.3

4 Explain the level of skill and training to reach a professional production level of a performance. 7.1.4

5 Describe and critique the elements of a performance from an audience member's perspective. 7.1.5

6 Determine the relationship among costume, scenic, lighting and sound designers. 7.1.6

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2 **Genres: Analyze and critique the stylistic differences among genres.** 7.2

Compare and contrast the various styles. 7.2.1

Skip to main content

2 Identify and compare the lives, works and influence of significant individuals in various cultures, traditions and historical periods. 7.2.2

3 Compare and contrast characteristics (e.g., technique, form, content) of genres from a particular time period or area of influence. 7.2.3

4 Explain the influence of social context, historical periods and culture in the development of a performance. 7.2.4

3 Basic Movement: Execute basic movement concepts in performance. 7.3

1 Use exercises that build strength, stamina, flexibility, agility and coordination in locomotor and nonlocomotor movements. 7.3.1

2 Apply appropriate alignment, isolation, strength, flexibility, agility and coordination in locomotor and non-locomotor movements. 7.3.2

3 Perform various examples of dance steps and movements within a dance genre. 7.3.3

4 Exhibit stage presence, confidence and focus. 7.3.4

5 Exhibit aesthetic awareness, creation of line, rhythm, musicality, expression and movement dynamics. 7.3.5

6 Perform an extended movement sequence or dance sequence from memory. 7.3.6

4 Space, Time and Energy: Exhibit the use of space, time and energy through performance. 7.4

1 Work within conventional and nonconventional spaces. 7.4.1

2 Use space and dynamics in solo and ensemble performances. 7.4.2

3 Respond to meter, rhythmic pattern and phrasing in a performance. 7.4.3

4 Apply various patterns in performance movements. 7.4.4

5 Alter a theatrical, choreographic or interdisciplinary performance. 7.4.5

5 Choreography: Choreograph a dance using choreographic principles, processes and structures. 7.5

1 Apply contrast and transition using choreographic principles. 7.5.1

2 Apply processes of improvisation, reordering and chance. 7.5.2

3 Compare and contrast the differences between abstract and narrative movements. 7.5.3

4 Choreograph dances from multiple genres. 7.5.4

5 Create a movement sequence that incorporates dance techniques and choreographic forms and principles. 7.5.5

6 Create unified ensemble movement. 7.5.6

7 Critique a choreographed complementary and contrasting form for an ensemble. 7.5.7

Skip to main content

Execute the use of balance, counter-balance and the support of weight through partnering techniques. 7.5.8

9 Adapt movement to the choreographer's intent. 7.5.9

6 Music Elements: Distinguish the elements of music through listening. 7.6

1 Identify pitch, interval, scales, solfege and chords. 7.6.1

2 Identify meter. 7.6.2

3 Identify voice leading and harmonic progressions. 7.6.3

4 Identify the relationship between melodies and harmony. 7.6.4

5 Identify the tonality of work. 7.6.5

6 Identify the rhythmic pattern of a piece of music. 7.6.6

7 Identify texture and form. 7.6.7

8 Identify different instrumental and vocal timbres. 7.6.8

9 Compare and contrast rhythm, patterns and style in a performance. 7.6.9

10 Analyze examples of a varied repertoire of music, representing diverse styles and cultures. 7.6.10

7 Musical Symbols: Interpret musical symbols. 7.7

1 Identify music notational symbols from a vocal or instrumental score. 7.7.1

2 Sight read using music theory-based systems. 7.7.2

3 Identify major, minor and modal tonalities. 7.7.3

4 Identify rhythms in various meters. 7.7.4

5 Interpret articulations, dynamics, expressive symbols and terms. 7.7.5

8 Musical Performance: Perform different styles of instrumental or vocal music in solos and ensembles. 7.8

1 Apply the elements of music that produce an expressive effect. 7.8.1

2 Perform, with expression and technical accuracy, a varied repertoire of particular styles or genres. 7.8.2

3 Translate the musical score into a performance. 7.8.3

4 Respond to the cues of a conductor or section leader. 7.8.4

5 Perform with attention to key, balance, intonation, phrasing, pitch and rhythmic accuracy. 7.8.5

6 Improvise rhythmic and melodic variations over given chord progressions and symbols. 7.8.6

7 Employ the correct technique required for characteristic tone production, including posture, breath support, hand position, embouchure and vocal placement. 7.8.7

8 Identify matching pitches from two or more sources. 7.8.8

Evaluate a performance, composition, arrangement or improvisation by comparing it to similar or exemplary models. 7.8.9

Skip to main content

9 **Musical Composition: Arrange, compose and score music using notation and sequencing software.** 7.9

1 Analyze the form, melody, harmony and rhythm of a composition. 7.9.1

2 Transpose musical notation. 7.9.2

3 Compose and score a musical composition in several distinct styles. 7.9.3

4 Arrange pieces for voices or instruments, other than those for which the pieces were written. 7.9.4

5 Compose or arrange music for voices and instruments. 7.9.5

10 **Acting Process: Create, research and perform a variety of believable, multidimensional roles.** 7.10

1 Analyze a script and use clues, inherent in the dialogue, to create a character. 7.10.1

2 Develop vocal and physical attributes of a role using the script, direction and imagination. 7.10.2

3 Develop the score of action for a role based on given circumstances. 7.10.3

4 Apply a series of everyday activities to the role through sensory imagination. 7.10.4

5 Develop the physical, social and emotional elements of a character through action. 7.10.5

6 Express a variety of characters and different theatrical styles through vocal qualities, posture, movement and language. 7.10.6

7 Sustain a character as an actor in an ensemble rehearsal and performance. 7.10.7

8 Identify and execute inner monologue, personal imagery, imaginative imagery, personal associations and elements of action. 7.10.8

9 Research different social contexts of character relationships, classes and situations. 7.10.9

10 Apply classical and contemporary acting techniques. 7.10.10

11 Evaluate collaborative efforts and artistic choices in informal and formal productions. 7.10.11

11 **Production Management: Assign roles, functions and procedures based on a script or production plan.** 7.11

1 Identify the stages in the production process. 7.11.1

2 Describe the function and responsibilities of individuals involved in creating, planning, scheduling and producing a production. 7.11.2

3 Develop script formats, interpretations, subjects, production choices and ideas. 7.11.3

Skip to main content

4 Secure talent and a location. 7.11.4

5 Manage personnel and workflow. 7.11.5

6 Align the scenes and cast with the script or production plan. 7.11.6

12 Production Design: Adapt the elements of stagecraft to a script or production plan. 7.12

1 Create a design that captures the director's vision and concept. 7.12.1

2 Create a design using standards scenery elements. 7.12.2

3 Integrate all design elements (e.g., costuming, scenery, lighting, audio and properties) to reflect the mood, setting and socioeconomic statuses indicated in the production plan. 7.12.3

4 Determine stage rigging based on stage configuration. 7.12.4

5 Create a set rendering, scale ground plan and set model using different techniques (e.g., collage, paint elevation chart, thumbnail design). 7.12.5

6 Identify stagecraft properties and their function and placement in a production. 7.12.6

7 Execute scenic painting, lighting and costuming based on the audience's perception of highlights and shadows. 7.12.7

8 Interpret the elements of a simple light plot. 7.12.8

9 Execute a lighting design. 7.12.9

13 Costuming: Create and apply wardrobe, hair style and makeup for a performance. 7.13

1 Develop a character analysis to create costuming for production. 7.13.1

2 Create renderings to illustrate design choices based on a script analysis or production plan. 7.13.2

3 Create and interpret a costume plot to track the movement and specific costuming needs of characters in a play, including quick changes. 7.13.3

4 Render costume concepts to scale. 7.13.4

5 Develop a plan to create costumes that are functional and artistically effective. 7.13.5

6 Compare and contrast the various methods of acquiring costuming within the confines of a budget. 7.13.6

7 Apply wardrobe, hair and makeup to convey the mood, character, setting and social status of a character. 7.13.7

8 Create garments using machine and hand sewing. 7.13.8

9 Adapt commercial sewing patterns for theatrical use. 7.13.9

10 Describe the relationship among costume, scenic, lighting and sound designers. 7.13.10

Skip to main content

Performance Demands: Meet the physical, vocal and psychological demands of a performance. 7.14

1 Apply the warm-up process and other techniques that prevent strain on various parts of the body and voice. 7.14.1

2 Recognize physical stress as a potential risk factor to the body's various movements. 7.14.2

3 Develop techniques to enhance a performance based on the knowledge of anatomy and physiology. 7.14.3

4 Develop a nutrition plan and lifestyle choices that support optimal performance and reduce stress and injury. 7.14.4

5 Anticipate the physical requirements of a performance. 7.14.5

6 Overcome psychological stresses to minimize their impacts on a performance. 7.14.6

7 Manage and relieve anxieties. 7.14.7

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15 Rehearsal and Audition: Establish skills and habits necessary for auditions, individual practice and rehearsals. 7.15

1 Plan for different types of auditions and adapt to in-person, audio and video format requirements. 7.15.1

2 Select the audition material that meets the expectations of the company or individual holding the audition. 7.15.2

3 Prepare physically and mentally for rehearsal and audition demands. 7.15.3

4 Critique the strengths and weaknesses of a performance during rehearsal. 7.15.4