



# 2026 Multimedia Capstone

Program CIP: 50.0102—Digital Arts

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The Research and Curriculum Unit (RCU), located in Starkville, as part of Mississippi State University (MSU), was established to foster educational enhancements and innovations. In keeping with the land-grant mission of MSU, the RCU is dedicated to improving the quality of life for Mississippians. The RCU enhances the intellectual and professional development of Mississippi students and educators while applying knowledge and educational research to the lives of the people of the state. The RCU works within the contexts of curriculum development and revision, research, assessment, professional development, and industrial training.

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## Acknowledgments

The Multimedia Capstone curriculum was presented to the Mississippi State Board of Education on January 15, 2026. The following people were serving on the state board at the time:

**Dr. Lance Evans**, State Superintendent of Education, Executive Secretary  
**Mr. Matt Miller**, Southern Supreme Court District Representative, Chair  
**Mr. Matt Mayo**, Central Supreme Court District Representative, Vice-Chair  
**Dr. Wendi Barrett**, Teacher Representative  
**Mr. Glen East**, Administrator Representative  
**Mr. Bill Jacobs**, At-Large Representative  
**Dr. Ronnie McGehee**, At-Large Representative  
**Mr. Mike Pruitt**, At-Large Representative  
**Mrs. Billye Jean Stroud**, Northern Supreme Court District Representative  
**Mrs. Mary Werner**, At-Large Representative  
**Mr. Crosby Parker**, Senior Student Representative  
**Ms. Michelle Xie**, Junior Student Representative

The following Mississippi Department of Education (MDE) Office of Career and Technical Education (CTE) and Workforce Development (WD) and RCU managers and specialists assisted in the development of the Multimedia Capstone curriculum:

**Brett Robinson**, Associate State Superintendent, MDE Office of CTE and WD  
**Betsey Smith**, Director, RCU  
**Myesha Wallace**, Multimedia Program Supervisor, MDE Office of CTE and WD  
**Courtney McCubbins**, CTE Curriculum and Assessment Manager, RCU  
**Courtney McAdams**, Project Manager, RCU

Special thanks are extended to the educators who contributed to the development and revision of this framework and supporting materials:

**Sheri Burrell**, Kosciusko-Attala Career Technical Center, Kosciusko  
**Adam Chance**, Clinton High School, Clinton  
**Devin Cooper**, Madison Central High School, Madison  
**Trey Gore**, Hinds Community College, Raymond  
**Melvin Hodge**, Career Development Center, Jackson  
**Debra Martin**, Quitman School District, Quitman  
**Sherrie Powell**, Calhoun County Career and Technical Center, Calhoun City

Appreciation is expressed to the following professionals who provided guidance and insight throughout the development process:

**JaMichael Chambers**, TSA State Advisor, Mississippi Department of Education  
**Chris Misun**, Instructor, MSU Department of Communication, Media, and Theatre  
**Josh Stanford**, Program Supervisor, Mississippi Department of Education

## Standards

Standards and alignment crosswalks are referenced in the appendices. Depending on the curriculum, these crosswalks should identify alignment to the standards mentioned below, as well as possible related academic topics as required in the Subject Area Testing Program in Algebra I, Biology I, and English II, which could be integrated into the content of the units. Mississippi's CTE Multimedia Capstone is aligned to the following standards:

### **Advance CTE Content Standards**

#### *Information Technology Cluster*

- Web and Digital Communications Career Pathway (IT-WD)

#### *Arts, A/V Technology, and Communications Cluster*

- Printing Technology Career Pathway (AR-PRT)
- A/V Technology and Film Career Pathway (AR-AV)
- Visual Arts Career Pathway (AR-VIS)

The standards were extensively researched and reviewed by leaders in the industry, secondary and postsecondary instructors, and university specialists. For each content standard, performance elements representing major topic areas with accompanying performance indicators were developed. Measurements of assessment of the performance elements and performance indicators were developed at the basic, intermediate, and advanced levels. A complete copy of the standards can be accessed at <https://careertech.org/career-clusters/resources/>.

### **International Society for Technology in Education Standards (ISTE)**

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[iste.org](https://iste.org)

### **College- and Career-Readiness Standards**

College- and career-readiness standards emphasize critical thinking, teamwork, and problem-solving skills. Students will learn the skills and abilities demanded by the workforce of today and the future. Mississippi adopted Mississippi College- and Career-Readiness Standards (MCCRS) to provide a consistent, clear understanding of what students are expected to learn and so teachers and parents know what they need to do to help them.

[mdek12.org/academiceducation/mississippi-college-and-career-readiness-standards/](https://mdek12.org/academiceducation/mississippi-college-and-career-readiness-standards/)

### **Career and Technical Student Organizations (CTSOs)**

Mississippi's Career and Technical Education (CTE) curricula are aligned with the programs, activities, and competitive events offered through Career and Technical Student Organizations (CTSOs). These organizations provide students with opportunities to apply classroom knowledge in real-world contexts, develop leadership and employability skills, and connect with industry and community partners. Each pathway includes an appendix identifying the CTSOs most closely connected to the curriculum, ensuring that students' classroom learning is reinforced through co-curricular experiences that prepare them for success in both post-secondary education and the workforce.

[mdek12.org/cte/so/](https://mdek12.org/cte/so/)

## Preface

Secondary CTE programs in Mississippi face many challenges resulting from sweeping educational reforms at the national and state levels. Schools and teachers are increasingly being held accountable for providing applied learning activities to every student in the classroom. This accountability is measured through increased requirements for mastery and attainment of competency as documented through both formative and summative assessments. This document provides information, tools, and solutions that will aid students, teachers, and schools in creating and implementing applied, interactive, and innovative lessons. Through best practices, alignment with national standards and certifications, community partnerships, and a hands-on, student-centered concept, educators will be able to truly engage students in meaningful and collaborative learning opportunities.

The courses in this document reflect the statutory requirements as found in Section 37-3-49, *Mississippi Code of 1972*, as amended (Section 37-3-46). In addition, this curriculum reflects guidelines imposed by federal and state mandates (Laws, 1988, Ch. 487, §14; Laws, 1991, Ch. 423, §1; Laws, 1992, Ch. 519, §4 eff. from and after July 1, 1992; Strengthening Career and Technical Education for the 21st Century Act, 2019 [Perkins V]; and Every Student Succeeds Act, 2015).

## Mississippi Teacher Professional Resources

The following are resources for Mississippi teachers:

### **Curriculum, Assessment, Professional Learning**

- Program resources can be found at the RCU's website, [rcu.msstate.edu](http://rcu.msstate.edu).

### **Learning Management System: An Online Resource**

- Learning management system information can be found at the RCU's website, under Professional Learning.

Should you need additional instructions, contact the RCU at 662.325.2510 or [helpdesk@rcu.msstate.edu](mailto:helpdesk@rcu.msstate.edu).

## Executive Summary

### Pathway Description

The Multimedia pathway is a four-credit program that teaches digital audio/video production, digital design, web design, animation, and broadcasting. This pathway requires completion of Multimedia Core, two additional offerings from available Multimedia courses, and Multimedia Capstone for students to be considered a CTE completer. Students are also taught about multimedia history, theory, and communication skills for effective presentations. This pathway is ideal for students interested in creative careers such as digital design, web design, or video production. It also provides students with valuable communication and technology skills applicable to a variety of career paths. This pathway is available at several Mississippi high schools and career centers. For additional information, contact your local school counselor or career center.

### Grade Level and Class Size Recommendations

It is recommended that students enter this program as sophomores. Exceptions to this are a district-level decision based on class size, enrollment numbers, student maturity, and CTE delivery method. This is a hands-on, lab- or shop-based course. Therefore, a maximum of 15 students is recommended per class, with only one class and teacher at a time.

### Student Prerequisites

For students to experience success in the program, the following student prerequisites are suggested:

1. C or higher in English (the previous year)
  2. C or higher in high school-level math (last course taken, or the instructor can specify the level of math instruction needed)
  3. Instructor approval
- or**
1. Instructor approval

### Assessment

The latest assessment blueprint for the curriculum can be found at [rcu.msstate.edu/curriculum](http://rcu.msstate.edu/curriculum).

### Applied Academic Credit

The latest academic credit information can be found at [mdek12.org/secondaryeducation/approved-courses/](http://mdek12.org/secondaryeducation/approved-courses/).

### Educator Licensure

The latest educator licensure information can be found at [mdek12.org/licensure](http://mdek12.org/licensure).

### Professional Learning

If you have specific questions about the content of any training sessions provided, please contact the RCU at 662.325.2510 or [helpdesk@rcu.msstate.edu](mailto:helpdesk@rcu.msstate.edu).

## Course Outline

This curriculum consists of one 1-credit course.

### Multimedia Capstone—Course Code: XXXXXX

Unit	Title	Hours
1	Introduction, Safety, and Orientation	10
2	Capstone Research	20
3	Capstone Project	90
4	Multimedia Portfolio	10
5	Final Publication and Presentation	10
<b>Total</b>		<b>140</b>



## Career Pathway Outlook

### Overview

The Multimedia Capstone course is the final course of the Multimedia pathway within the Arts, Entertainment, and Design career cluster. It is used to complement and extend the previous courses taken within the multimedia pathway. This pathway emphasizes advanced skills in digital design to provide students with hands-on experience in producing high-quality digital content. It also positions students well for associate degrees and higher education, catering to careers ranging from technical writing to executive roles in multimedia-related fields. Most careers in multimedia require at least an associate degree, although careers with the highest earning potential—postsecondary teachers, for example—usually require advanced degrees.

### Needs of the Future Workforce

The U.S. Bureau of Labor Statistics projects consistent growth across multimedia occupations from 2022 to 2032, reflecting continuous demand for skilled professionals in animation, digital media, graphic design, video production, and web content development. Careers such as film and video editors, graphic designers, special effects artists, and web developers are expected to generate thousands of job openings annually due to industry growth and workforce turnover. As of May 2023, the average annual wage across these multimedia fields ranged from \$58,000 to over \$80,000. This is above the national average for all occupations. Most experts in these roles hold a bachelor's degree in communications, digital media, graphic design, or a related field. In Mississippi, roles like graphic designers and video editors are among the most in-demand within the multimedia pathway. Other roles such as animators, digital producers, and multimedia designers are projected to grow around 6% to 8% over the next decade.

Table 1.1: Current and Projected Occupation Report

Description	Jobs, 2022	Projected Jobs, 2032	Change (Number)	Change (Percent)	Average Hourly Earnings, 2025
Multimedia Artists and Animators, Including Special Effects	80	90	10	12.5%	\$14.71
Graphic Designers	1,860	2,090	230	12.4%	\$15.77
Web Developers	200	270	70	35.0%	\$19.70
Web and Digital Interface Designers	230	290	60	26.1%	\$19.35
Art, Drama, and Music Teachers, Postsecondary	660	700	40	6.1%	\$19.14
Communications Teachers, Postsecondary	180	200	20	11.1%	\$18.71
Audio and Video Equipment Technicians	190	200	10	5.3%	\$13.55

Source: Mississippi Department of Employment Security; mdes.ms.gov (2025).

### Perkins V Requirements and Academic Infusion

The Multimedia Capstone curriculum meets Perkins V requirements of introducing students to and preparing them for high-skill, high-wage occupations in arts, entertainment, and design fields. It also offers students a program of study, including secondary, postsecondary, and institutions of higher learning courses, that will further prepare them for careers in multimedia. Additionally, this curriculum is integrated with academic college- and career-readiness standards.

## **Transition to Postsecondary Education**

The latest articulation information for secondary to postsecondary can be found at the Mississippi Community College Board website, [mccb.edu](http://mccb.edu).

### **Best Practices**

#### *Innovative Instructional Technologies*

Classrooms should be equipped with tools that will teach today's digital learners through applicable and modern practices. The Multimedia Capstone educator's goal should be to include teaching strategies that incorporate current technology. To make use of the latest online communication tools—wikis, blogs, podcasts, and social media platforms, for example—the classroom teacher is encouraged to use a learning management system that introduces students to education in an online environment and places more of the responsibility of learning on the student.

#### *Differentiated Instruction*

Students learn in a variety of ways, and numerous factors—students' background, emotional health, and circumstances, for example—create unique learners. By providing various teaching and assessment strategies, students with various learning preferences can have more opportunities to succeed.

#### *CTE Student Organizations*

Teachers should investigate opportunities to sponsor a student organization. Mississippi offers CTSOs that will foster the types of learning expected from the Multimedia Capstone curriculum, such as SkillsUSA and TSA. Student organizations provide participants and members with growth opportunities and competitive events. They also open doors to the world of multimedia careers and scholarship opportunities.

#### *Cooperative Learning*

Cooperative learning can help students understand topics when independent learning cannot. Therefore, you will see several opportunities in the Multimedia Capstone curriculum for group work. To function in today's workforce, students need to be able to work collaboratively with others and solve problems without excessive conflict. This curriculum provides opportunities for students to work together and help each other complete complex tasks. There are many field experiences within the Multimedia Capstone curriculum that will allow and encourage collaboration with professionals currently in the multimedia field.

#### *Work-Based Learning*

Work-based learning is an extension of understanding competencies taught in the Multimedia Capstone classroom. The Multimedia program may require students to obtain clinical-type hours with deliverables, including, but not limited to, clinicals, worksite field experiences, entrepreneurship, internships, pre-apprenticeships, school-based enterprises, job placements, portfolios, and simulated worksites. These real-world connections and applications provide a link to all types of students regarding knowledge, skills, and professional dispositions. Thus, supervised collaboration and immersion into the multimedia industry are keys to students' success, knowledge, and skills development. For more information on embedded WBL, visit the [Mississippi Work-Based Learning Manual](#) on the RCU website, [rcu.msstate.edu](http://rcu.msstate.edu).

## Professional Organizations

Association for Career and Technical Education (ACTE)

[acteonline.org](http://acteonline.org)

Mississippi Association for Career and Technical Education (MSACTE)

[mississippiacte.com](http://mississippiacte.com)

Mississippi Educational Computing Association (MECA)

[ms-meca.org](http://ms-meca.org)

SkillsUSA

[skillsusa.org](http://skillsusa.org)

Technology Student Association (TSA)

[tsaweb.org](http://tsaweb.org)

## Using This Document

### **Competencies and Suggested Objectives**

A competency represents a general concept or performance that students are expected to master as a requirement for satisfactorily completing a unit. Students will be expected to receive instruction on all competencies. The suggested objectives represent the enabling and supporting knowledge and performances that will indicate mastery of the competency at the course level.

### **Teacher Resources**

All teachers should request to be added to the Canvas Resource Guide for their course. For questions or to be added to the guide, send a Help Desk ticket to the RCU by emailing [helpdesk@rcu.msstate.edu](mailto:helpdesk@rcu.msstate.edu).

### **Perkins V Quality Indicators and Enrichment Material**

Some of the units may include an enrichment section at the end. This material will greatly enhance the learning experiences of students. If the Multimedia pathway utilizes a national certification, work-based learning, or another accountability measure that aligns with Perkins V as a quality indicator, this material may be assessed based on that quality indicator. It is the responsibility of the teacher to ensure all competencies for the selected quality indicator are covered throughout the year.

## Unit 1: Introduction, Safety, and Orientation

### Competencies and Suggested Objectives

1. Apply course expectations, school and program policies, safety procedures, and explore career options in multimedia. <sup>DOK2</sup>
  - a. Define the capstone experience.
    - Students should connect with industry representatives and/or advisory committees to provide quality real-world work experiences, scenarios, and feedback to enrich their understanding of industry practices and standards, develop needed skills to enter the workforce, and cultivate professional relationships.
  - b. Brainstorm work-based scenarios in industry and/or other community environments where a multimedia project could be of value.
  - c. Apply safety procedures in the classroom, lab, and for all equipment.
2. Analyze and apply 21st-century skills to the classroom environment and industry standards. <sup>DOK3</sup>
  - a. Identify potential influences that shape personality development, including personality traits, heredity, and environmental factors.
  - b. Analyze how personality traits affect teamwork and leadership skills in the workplace.
  - c. Revise a working resume to reflect current work and continue to update throughout the course.
  - d. Participate in a mock interview related to your area of expertise in multimedia, focusing on body language, appearance, and communication skills.
  - e. Describe the purpose of student organizations as it relates to personality, leadership, and teamwork development.
  - f. Apply knowledge of the code of ethics as it pertains to multimedia.
    - Responsibility
    - Fairness
    - Honesty
    - Accuracy
    - Accountability, etc.

**Note:** Safety is to be taught as an ongoing part of the program. Students are required to complete a written safety test with 100% accuracy before entering the shop for lab simulations and projects. This test should be documented in each student's file.

**Note:** This unit will be ongoing throughout the year. Time allotted for this unit will be distributed over the entire year.

### Mississippi Career Connections

Students entering this capstone have already built skills with various types of media, and now they begin learning how those skills show up in real Mississippi workplaces. To make that connection early, have students brainstorm where multimedia is actually used in the state (e.g., local news stations, university athletics media teams, small marketing agencies, tourism groups, nonprofit campaigns, and small businesses). Invite an industry guest (in person or virtual) to share safety expectations, workflow habits, and teamwork skills. This helps students see how their pathway classes lead directly into Mississippi's growing multimedia and creative industries.

## Unit 2: Capstone Research

### Competencies and Suggested Objectives

1. Develop and research a capstone project idea aligned with media concentration areas. <sup>DOK3</sup>
  - a. Explore media concentration areas such as digital design, digital video production, broadcasting, sports journalism, etc., to guide project research.
2. Develop and deliver a pitch idea to an instructor or professional panel, and evaluate feedback to refine the project. <sup>DOK3</sup>
  - a. Create an outline, production calendar, and presentation.
  - b. Identify audience demographics.
  - c. Discuss potential production delays (e.g., natural events, equipment issues, material issues, human factors, etc.).
  - d. Identify equipment needed for the project.
  - e. Develop a plan for digitally organizing media.
  - f. Analyze feedback given to decide what adjustments need to be made for the project.
3. Apply ethical and legal implications in preproduction planning. <sup>DOK2</sup>
  - a. Review copyright rules.
  - b. Collect releases as the school, program, or project directs.
  - c. Review content for school appropriateness according to the school handbook and/or other program policies.
  - d. Apply knowledge of the code of ethics as it pertains to journalism.

### Mississippi Career Connections

Every major multimedia project in Mississippi (sports feature for a high school, a tourism promo for the Gulf Coast, a short documentary about local culture, or graphics for a community organization) starts with strong pre-production. To tie this unit to real careers, have students pitch their capstone ideas to a panel that includes a local media teacher, a district communications staff member, or a community partner. Students identify their audience, plan their materials, anticipate delays, and adjust based on feedback. This mirrors how Mississippi creators plan projects for clients and communities.

## Unit 3: Capstone Project

### Competencies and Suggested Objectives

1. Complete a minimum of 35 hours of embedded WBL according to the guidelines found in the Mississippi Work-Based Learning Manual to complete a deliverable. <sup>DOK4</sup>
  - a. Utilize the state-approved recordkeeping system to log hours, meet checkpoints, document the capstone project development process, and provide examples of their work throughout the multimedia pathway.
2. Manage all stages of production, applying research, initiative, and skills to create a final product. <sup>DOK4</sup>
  - a. Operate technical tools relevant to chosen media concentration(s).
  - b. Conduct field work/research using professional production standards.
  - c. Collect footage according to the original plan.
  - d. Maintain active work log.
  - e. Meet deadlines in the production calendar.

**Note:** Safety is to be taught as an ongoing part of the program. Students are required to complete a written safety test with 100% accuracy before entering the shop for lab simulations and projects. This test should be documented in each student's file.

**Note:** This unit will be ongoing throughout the year. Time allotted for this unit will be distributed over the entire year.

### Mississippi Career Connections

Mississippi's multimedia workforce depends on people who can manage projects from start to finish, such as filming events, creating graphics, designing marketing content, or producing school-based broadcast segments. As students complete their required Embedded Work-Based Learning hours, they apply all the skills they've learned in real or simulated settings. They track hours, keep a production log, meet deadlines, and deliver actual work for partners. This shows students exactly how their pathway prepares them for paid creative work in Mississippi.

## Unit 4: Multimedia Portfolio

### Competencies and Suggested Objectives

1. Create a professional digital portfolio outlining student skills and progression throughout the Multimedia pathway. <sup>DOK4</sup>
  - a. Explore web-based platforms such as Google Sites or Adobe Express Web Page to create a professional digital portfolio.
  - b. Collect artifacts showing progression of skills.
  - c. Write and review a reflection detailing student progress throughout the multimedia pathway.
  - d. Edit (proofread) portfolio in preparation for publication.
  - e. Finalize professional resume with statement of purpose.

### Mississippi Career Connections

A strong portfolio is essential for students entering Mississippi's creative fields, such as internships, entry-level design jobs, broadcast assistant roles, or college programs. In this unit, students gather work from their previous Multimedia courses and their capstone project to build a clean, professional portfolio. They reflect on how their skills have grown, showcase their best media pieces, and finalize a résumé that highlights both classroom learning and hands-on experience. This mirrors what real applicants need when approaching Mississippi employers.



## Unit 5: Final Publication and Presentation

### Competencies and Suggested Objectives

1. Present the final project to an audience utilizing effective communication and professionalism. <sup>DOK3</sup>
  - a. Present printed, digital, and/or physical product (e.g., film festival, showcase, catalog, website, etc.) to school, industry professionals, and/or community members.
  - b. Ask for and respond to feedback in a professional manner.

### Mississippi Career Connections

Students mirror real-world opportunities by presenting their final capstone project to an audience (teachers, community members, industry partners, etc.). They explain their creative choices, answer questions, and respond professionally to feedback. This final presentation gives students an authentic experience in pitching and sharing their work, much like multimedia professionals across the state do when releasing content or working with clients.

# Student Competency Profile

Student's Name: \_\_\_\_\_

This record is intended to serve as a method of noting student achievement of the competencies in each unit. It can be duplicated for each student, and it can serve as a cumulative record of competencies achieved in the course.

In the blank before each competency, place the date (MM/DD/YY) on which the student mastered the competency.

Unit 1: Introduction, Safety, and Orientation		
	1.	Apply course expectations, school and program policies, safety procedures, and explore career options in multimedia.
	2.	Analyze and apply 21st-century skills to the classroom environment and industry standards.
Unit 2: Capstone Research		
	1.	Develop and research a capstone project idea aligned with media concentration areas.
	2.	Develop and deliver a pitch idea to an instructor or professional panel, and evaluate feedback to refine the project.
	3.	Apply ethical and legal implications in preproduction planning.
Unit 3: Capstone Project		
	1.	Complete a minimum of 35 hours of embedded WBL according to the guidelines found in the Mississippi Work-Based Learning Manual to create a deliverable.
	2.	Manage all stages of production, applying research, initiative, and skills to create a final product.
Unit 4: Multimedia Portfolio		
	1.	Create a professional digital portfolio outlining student skills and progression throughout the Multimedia pathway.
Unit 5: Final Publication and Presentation		
	1.	Present the final project to an audience utilizing effective communication and professionalism.

## Appendix A: Industry Standards

Standards	Units					
	1	2	3	4	5	6
WDC1	X	X	X	X	X	X
WDC2	X	X	X	X	X	X
WDC3	X	X	X	X	X	X
WDC4	X	X	X	X	X	X
WDC5	X	X	X	X	X	X
WDC6		X	X	X	X	X
WDC7			X	X	X	X
WDC8			X	X	X	X
WDC9					X	X
WDC10	X	X	X	X	X	X
PRT1	X					X
PRT2	X	X	X	X	X	X
PRT3				X	X	X
AVT1	X					
AVT2	X	X	X	X	X	X
AVT3	X	X	X	X	X	X
AVT4		X	X	X	X	X
VIS1	X					
VIS2	X	X	X	X	X	X
VIS3	X	X	X	X	X	X

### Information Technology Career Cluster™ (IT)

#### WDC Web & Digital Communications Career Pathway

1. Analyze customer requirements to design and develop a Web or digital communication product.
2. Apply the design and development process to produce user-focused Web and digital communications solutions.
3. Write product specifications that define the scope of work aligned to customer requirements.
4. Demonstrate the effective use of tools for digital communication production, development, and project management.
5. Develop, administer, and maintain Web applications.
6. Design, create, and publish a digital communication product based on customer needs.
7. Evaluate the functionality of a digital communication product using industry accepted techniques and metrics.
8. Implement quality assurance processes to deliver quality digital communication products and services.
9. Perform maintenance and customer support functions for digital communication products.
10. Comply with intellectual property laws, copyright laws, and ethical practices when creating Web/digital communications.

### Arts, A/V Technology, & Communications Career Cluster™ (AR)

#### PRT Printing Technology Career Pathway

1. Manage the printing process, including customer service and sales, scheduling, production, and quality control.
2. Demonstrate the production of various print, multimedia, or digital media products.
3. Perform finishing and distribution operations related to the printing process.

**AV      A/V Technology & Film Career Pathway**

1. Describe the history, terminology, occupations, and value of audio, video, and film technology.
2. Demonstrate the use of basic tools and equipment used in audio, video, and film production.
3. Demonstrate technical support skills for audio, video, and/or film productions.
4. Design an audio, video, and/or film production.

**VIS      Visual Arts Career Pathway**

1. Describe the history and evolution of the visual arts and its role in and impact on society.
2. Analyze how the application of visual arts elements and principles of design communicate and express ideas.
3. Analyze and create two and three-dimensional visual art forms using various media.

## Appendix B: 21st Century Skills

Standards	Units					
	1	2	3	4	5	6
CS1	X	X	X	X	X	X
CS2	X	X			X	X
CS3	X					
CS6	X	X	X	X	X	X
CS7	X	X	X	X	X	X
CS8	X	X	X	X	X	X
CS9	X	X	X	X	X	X
CS10		X	X	X	X	X
CS11	X	X	X	X	X	X
CS12	X	X	X	X	X	X
CS13	X	X	X	X	X	X
CS14	X	X	X	X	X	X
CS15	X	X	X	X	X	X
CS16	X	X	X	X	X	X

### CSS1-21st Century Themes

#### CS1 Global Awareness

1. Using 21st century skills to understand and address global issues
2. Learning from and working collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
3. Understanding other nations and cultures, including the use of non-English languages

#### CS2 Financial, Economic, Business, and Entrepreneurial Literacy

1. Knowing how to make appropriate personal economic choices
2. Understanding the role of the economy in society
3. Using entrepreneurial skills to enhance workplace productivity and career options

#### CS3 Civic Literacy

1. Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
2. Exercising the rights and obligations of citizenship at local, state, national, and global levels
3. Understanding the local and global implications of civic decisions

#### CS4 Health Literacy

1. Obtaining, interpreting, and understanding basic health information and services and using such information and services in ways that enhance health
2. Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance, and stress reduction
3. Using available information to make appropriate health-related decisions
4. Establishing and monitoring personal and family health goals
5. Understanding national and international public health and safety issues

#### CS5 Environmental Literacy

1. Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water, and ecosystems.
2. Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.).
3. Investigate and analyze environmental issues and make accurate conclusions about effective solutions.
4. Take individual and collective action toward addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues).

## CSS2-Learning and Innovation Skills

- CS6 Creativity and Innovation**
  - 1. Think creatively
  - 2. Work creatively with others
  - 3. Implement innovations
- CS7 Critical Thinking and Problem Solving**
  - 1. Reason effectively
  - 2. Use systems thinking
  - 3. Make judgments and decisions
  - 4. Solve problems
- CS8 Communication and Collaboration**
  - 1. Communicate clearly
  - 2. Collaborate with others

## CSS3-Information, Media, and Technology Skills

- CS9 Information Literacy**
  - 1. Access and evaluate information
  - 2. Use and manage information
- CS10 Media Literacy**
  - 1. Analyze media
  - 2. Create media products
- CS11 ICT Literacy**
  - 1. Apply technology effectively

## CSS4-Life and Career Skills

- CS12 Flexibility and Adaptability**
  - 1. Adapt to change
  - 2. Be flexible
- CS13 Initiative and Self-Direction**
  - 1. Manage goals and time
  - 2. Work independently
  - 3. Be self-directed learners
- CS14 Social and Cross-Cultural Skills**
  - 1. Interact effectively with others
  - 2. Work effectively in diverse teams
- CS15 Productivity and Accountability**
  - 1. Manage projects
  - 2. Produce results
- CS16 Leadership and Responsibility**
  - 1. Guide and lead others
  - 2. Be responsible to others

## Appendix C: College and Career Ready Standards

Standards	Units					
	1	2	3	4	5	6
RI.11.1.	X	X	X	X	X	X
RI.11.2.	X	X	X	X	X	X
RI.11.3.	X	X	X	X	X	X
RI.11.4.	X	X	X	X	X	X
RI.11.5.	X	X	X	X	X	X
RI.11.6.	X	X	X	X	X	X
RI.11.7.	X	X	X	X	X	X
RI.11.8.	X	X	X	X	X	X
RI.11.10.	X	X	X	X	X	X
W.11.1.	X	X	X	X	X	X
W.11.2.	X	X	X	X	X	X
W.11.3.	X	X	X	X	X	X
W.11.4.	X	X	X	X	X	X
W.11.5.	X	X	X	X	X	X
W.11.6.	X	X	X	X	X	X
W.11.7.	X	X	X	X	X	X
W.11.8.	X	X	X	X	X	X
W.11.9.	X	X	X	X	X	X
W.11.10.	X	X	X	X	X	X
SL.11.1.	X	X	X	X	X	X
SL.11.2.	X	X	X	X	X	X
SL.11.3.	X	X	X	X	X	X
SL.11.4.	X	X	X	X	X	X
SL.11.5.	X	X	X	X	X	X
L.11.1.	X	X	X	X	X	X
L.11.2.	X	X	X	X	X	X
L.11.4.	X	X	X	X	X	X
L.11.5.	X	X	X	X	X	X
L.11.6.	X	X	X	X	X	X
RST.11.1.	X	X	X	X	X	X
RST.11.2.	X	X	X	X	X	X
RST.11.3.	X	X	X	X	X	X
RST.11.4.	X	X	X	X	X	X
RST.11.5.	X	X	X	X	X	X
RST.11.6.	X	X	X	X	X	X
RST.11.7.	X	X	X	X	X	X
WHST.11.2.	X	X	X	X	X	X
WHST.11.3.			X	X	X	
WHST.11.4.	X	X	X	X	X	X
WHST.11.5.	X	X	X	X	X	X
WHST.11.6.	X	X	X	X	X	X
WHST.11.7.	X	X	X	X	X	X
WHST.11.8.	X	X	X	X	X	X

## Reading Standards for Informational Text (11-12) - College and Career Readiness Anchor Standards for Informational Text

### **RI.11 Key Ideas and Details**

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.

### **RI.11 Craft and Structure**

4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.

### **RI.11 Integration of Knowledge and Ideas**

7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
8. Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
9. Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.

### **RI.11 Range of Reading and Level of Text Complexity**

10. By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.

## College and Career Readiness Anchor Standards for Writing

### **W.11 Text Types and Purposes**

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
  - a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
  - b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
  - c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
  - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
  - e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
  - a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
  - b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.



- c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
  - d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
  - e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
  - f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
  - b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
  - c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).
  - d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
  - e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

**W.11 Production and Distribution of Writing**

- 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
- 5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 11–12 on page 54.)
- 6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

**W.11 Research to Build and Present Knowledge**

- 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- 8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- 9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
  - a. Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).
  - b. Apply grades 11–12 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]”).

**W.11 Range of Writing**

- 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

## College and Career Readiness Anchor Standards for Speaking and Listening

### **SL.11 Comprehension and Collaboration**

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
  - a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
  - b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
  - c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
  - d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

### **SL.11 Presentation of Knowledge and Ideas**

4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11–12 Language standards 1 and 3 on page 54 for specific expectations.)

## College and Career Readiness Anchor Standards for Language

### **L.11 Conventions of Standard English**

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
  - a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.
  - b. Resolve issues of complex or contested usage, consulting references (e.g., Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage) as needed.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
  - a. Observe hyphenation conventions.
  - b. Spell correctly.

### **L.11 Knowledge of Language**

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
  - a. Vary syntax for effect, consulting references (e.g., Tufte's Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.

### **L.11 Vocabulary Acquisition and Use**

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
  - a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
  - b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).

- c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.
- d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
- 5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
  - a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.
  - b. Analyze nuances in the meaning of words with similar denotations.
- 6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### Reading Standards for Literacy in Science and Technical Subjects (11-12)

#### **RST.11 Key Ideas and Details**

- 1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
- 2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
- 3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

#### **RST.11 Craft and Structure**

- 4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.
- 5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
- 6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

#### **RST.11 Integration of Knowledge and Ideas**

- 7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
- 8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
- 9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

#### **RST.11 Range of Reading and Level of Text Complexity**

- 10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

### Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects (11-12)

#### **WHST.11 Text Types and Purposes**

- 1. Write arguments focused on discipline-specific content.
  - a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
  - b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
  - c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
  - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
  - e. Provide a concluding statement or section that follows from or supports the argument presented.
- 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

- a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
  - b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
  - c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
  - d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
  - e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).
3. (Not applicable as a separate requirement)
- WHST.11 Production and Distribution of Writing**
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
  5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
  6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- WHST.11 Research to Build and Present Knowledge**
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
  8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
  9. Draw evidence from informational texts to support analysis, reflection, and research.
- WHST.11 Range of Writing**
10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

## Appendix D: Common Core for State Standards for Mathematics

Standards	Units					
	1	2	3	4	5	6
N-RN.1.		X	X			
N-RN.2.		X	X			
N-Q.1.	X	X	X	X	X	X
N-Q.2.	X	X	X	X	X	X
N-Q.3.	X	X	X	X	X	X
A-SSE.1.		X	X	X		
A-SSE.2.		X	X	X		
A-SSE.3.		X	X	X		
A-SSE.4.		X	X	X		

### Mathematics (High School) - Number and Quantity

#### The Real Number System (N-RN)

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.
2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.
3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

#### Quantities (N-Q)

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

### Algebra

#### Seeing Structure in Expressions (A-SSE)

1. Interpret expressions that represent a quantity in terms of its context.
  - a. Interpret parts of an expression, such as terms, factors, and coefficients.
  - b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret  $P(1+r)^n$  as the product of  $P$  and a factor not depending on  $P$ .
2. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
  - a. Factor a quadratic expression to reveal the zeros of the function it defines.
  - b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
  - c. Use the properties of exponents to transform expressions for exponential functions.
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1) and use the formula to solve problems. For example, calculate mortgage payments.

## Appendix E: International Society for Technology in Education Standards (ISTE)

Standards	Units					
	1	2	3	4	5	6
T1	X	X	X	X	X	X
T2	X	X	X	X	X	X
T3	X	X	X	X	X	X
T4	X	X	X	X	X	X
T5	X	X	X	X	X	X
T6	X	X	X	X	X	X

### International Society for Technology in Education Standards (ISTE)

#### T1 Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students do the following:

- Apply existing knowledge to generate new ideas, products, or processes.
- Create original works as a means of personal or group expression.
- Use models and simulations to explore complex systems and issues.
- Identify trends and forecast possibilities.

#### T2 Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students do the following:

- Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- Develop cultural understanding and global awareness by engaging with learners of other cultures.
- Contribute to project teams to produce original works or solve problems.

#### T3 Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information. Students do the following:

- Plan strategies to guide inquiry.
- Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- Process data and report results.

#### T4 Critical Thinking, Problem Solving, and Decision Making

Students use critical-thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students do the following:

- Identify and define authentic problems and significant questions for investigation.
- Plan and manage activities to develop a solution or complete a project.
- Collect and analyze data to identify solutions and/or make informed decisions.
- Use multiple processes and diverse perspectives to explore alternative solutions.

#### T5 Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students do the following:

- Advocate and practice safe, legal, and responsible use of information and technology.
- Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- Demonstrate personal responsibility for lifelong learning.
- Exhibit leadership for digital citizenship.

#### T6 Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students do the following:

- Understand and use technology systems.
- Select and use applications effectively and productively.

- c. Troubleshoot systems and applications.
- d. Transfer current knowledge to learning of new technologies.



## Appendix F: TSA Competition Alignment

TSA Competition	Units					
	1	2	3	4	5	6
Audio Podcasting	X	X	X			
Digital Video Production		X	X	X	X	X
Music Production			X			X
On-Demand Video		X	X	X	X	X
Photographic Technology		X	X	X		X
Prepared Presentations	X				X	X
Promotional Design		X			X	X
STEM Mass Media	X	X	X	X	X	X
Virtual Reality Simulation (VR)		X	X			X
Webmaster				X	X	X

### National TSA Conferences High School Competitive Events: 2025 - 2026

1. **Audio Podcasting:** Participants use digital audio technology to create original content for a podcast piece that addresses the annual theme. The podcast must feature high level storytelling techniques, voice acting, and folly sound effects; the full entry must include documentation of the podcast development process and elements. Semifinalists participate in an interview.
2. **Digital Video Production:** Participants develop and submit a digital video and a documentation portfolio (including such items as a storyboard, script, summary of references and sources, and equipment list) that reflects the annual theme. Semifinalists participate in an interview.
3. **Music Production:** Participants produce an original musical piece that reflects the annual theme on the TSA website under Themes & Problems. The quality of the musical piece and required documentation (including elements such as a plan of work, self-evaluation, and a list of hardware, software, and instruments used) determines advancement to the semifinal level of competition, during which semifinalist participants are interviewed.
4. **On Demand Video:** Once participants receive the challenge details (required criteria, such as props and a line of dialogue) at the national TSA conference, they have 36 hours to produce a 60-second film that showcases video skills, tools, and communication processes. The quality of the completed video production determines the finalists.
5. **Photographic Technology:** Participants produce a photographic portfolio - demonstrating expertise in photo and imaging technology processes - to convey a message based on the annual theme. Semifinalists have 24 hours to complete a portfolio of photos (with required documentation) taken onsite at the national TSA conference. Finalists are determined based on the quality of the semifinal portfolio, the portfolio presentation, and interview responses.
6. **Prepared Presentation:** Participants deliver a three-to-five-minute oral presentation related to the current national TSA conference theme. Both semifinalists and finalists are determined based on the quality of the presentation and the appropriate use and content of the accompanying required slide deck.
7. **Promotional Design:** Participants use computerized graphic communications layout and design skills to produce a promotional resource packet. The resource must address the annual theme/problem and include at least four printed publication items and required documentation. Semifinalists demonstrate publishing competency in an onsite technical design challenge.
8. **STEM Mass Media:** In response to an annual theme, participants use written and verbal communication skills to convey a news story in both a video broadcast (preliminary round) and a digital written format (semifinal round). Participants must demonstrate a strong understanding of journalism etiquette and the common practices of the field of mass media.
9. **Virtual Reality Simulation (VR):** Participants use video and 3D computer graphics tools and design processes to create a two-to-three-minute VR visualization (accompanied by supporting documentation) that addresses the annual theme. Semifinalists deliver a presentation about their visualization and participate in an interview.
10. **Webmaster:** Participants design, build, and launch a website that addresses the annual challenge. Semifinalists participate in an interview to demonstrate the knowledge and expertise gained during the development of the website.



## Appendix G: SkillsUSA Competition Alignment

SkillsUSA Competition	Units					
	1	2	3	4	5	6
Advertising Design		X			X	X
Audio Production	X	X	X			X
Career Pathways-Arts and Communication	X	X	X	X	X	X
Digital Cinema Production		X	X	X	X	X
Photography		X	X	X		X
Prepared Speech	X				X	X
Promotional Bulletin Board		X			X	X
Video News Production		X	X	X		X
Video Production		X	X	X	X	X
Web Design and Development				X	X	X

### National SkillsUSA Conferences High School Competitive Events: 2025 - 2026

- Advertising Design:** This competition tests technical skills and creative aptitude as though competitors worked for an advertising agency. In addition to a written test, competitors will recreate a provided advertisement on a computer. Competitors are judged on their accuracy, proficiency with industry software, and ability to meet a deadline. The competition also includes a creative portion. The creative portion involves the application of creative thinking and a design challenge. Layout, drawing, and illustration skills are used, as well as the ability to create vibrant, effective designs using a computer.
- Audio Production:** Students will produce (plan, write, voice, record, edit, and render) up to a three minute radio production, such as a PSA, sound rich/NPR style news story, or a sound and interview news story. A 60-second streaming radio infomercial and 30-second ad spot will be produced and inserted into the production. The complete production requires students to demonstrate their ability to plan a project that meets a specific prompt and run time; and to gather, edit and mix a variety of audio sources. Competitors must render their completed project to a specified audio file format.
- Career Pathways – Arts and Communication:** Student teams use their course of study as the basis of a project that will benefit their class, school, community or industry. The project must highlight an aspect of their Career Cluster training. Upon completion of the project, the students will develop a display and use it within the community to explain their training and project. This competition will judge mastery of their training, its application, the project's benefit to their community, and display and presentation techniques. Teams must be entered in the appropriate Career Pathways - Arts and Communication based on the course enrollment of the students (not on the content of the project).
- Digital Cinema Production:** The competition evaluates and recognizes outstanding students for excellence and professionalism in filmmaking in the areas of development, pre-production, production, and postproduction through the writing, producing, directing, and editing of an up to five-minute short film based on the prompt given.
- Photography:** Competitors in the Photography competition are put through a series of real-world scenarios and are judged on their overall mastery of the following skills: understanding the features of today's digital SLR or mirrorless cameras, field assignment, producing a contact sheet, producing a composited digital fine art piece from their field assignment, question written test, portrait/commercial studio using strobes, troubleshooting common photo errors, print competition, and job interview.
- Prepared Speech (includes Middle School):** The competition requires students to deliver a five- to seven-minute prepared speech based on the annual SkillsUSA competition theme. Competitors are evaluated on their ability to present thoughts relating to the central theme clearly and effectively, and are rated on voice, mechanics and platform deportment.
- Promotional Bulletin Board (includes Middle School):** (Team of 3) The competition evaluates bulletin board displays created by SkillsUSA chapters based on the annual SkillsUSA competition theme. The bulletin boards promote SkillsUSA, career and technical education in general and related occupational information. An accompanying

professional portfolio documents the development and construction of the bulletin board. An oral presentation explains the process, purpose and educational value of the bulletin board.

8. **Video News Production:** Four (4) students work together as a team to script and plan a live, three-minute newscast before entering the video studio & control room space to then execute their planned production. Two students serve as the news anchor team, one student serves as the team's director/technical director, and one student serves as the floor director. Teams are evaluated on various technical video studio production metrics, on-camera anchor performance metrics plus how well they communicate and work well together as a team throughout the process.
9. **Video Production:** (Team of 2) Competitors are required to plan and shoot a video (generally 30 seconds or one minute in length) on location to convey the theme of the event. Editing is done in the competition area with special emphasis on professional production of the video by industry standards, quality of audio and video and adequate conveyance of the theme to the viewer of the final piece.
10. **Web Design and Development:** (Team of 2) Teams complete a series of challenges focusing on creating a website for a client and a specific target audience. Judging will focus on meeting the client's needs, usability and accessibility, and industry-standard best practices. Teams will also be evaluated on the process they use to meet the challenges and how well they work as a team. Teams will need Internet access as all competition materials (including the coding environment) will only be available online.