

Set Design

Level: 3

Career Cluster: Media Arts

Program: Media Production and Broadcasting

Pathway: Cinematography and Film/Video Production

Course Catalog Description

Introduces students to digitally based set design for film, video, and theatrical production through visual storytelling, digital drafting, 3D modeling, virtual prototyping, and digital presentation workflows. Students apply safety, collaboration, and production practices while creating scenic environments that support production goals using industry-relevant digital tools.

Summary

Introduces students to the principles and practices of digitally based set design for film, video, and theatrical production. Students explore career pathways, industry roles, digital safety procedures, and professional expectations while developing an understanding of how scenic environments support storytelling, mood, and production goals. Emphasis is placed on script and concept analysis, visual research, digital scenic drawing and drafting, 3D modeling, virtual mockups, digital asset creation, set dressing plans, and collaboration with directors, designers, and technical crews using shared digital workflows. Through research, design development, critique, and project-based learning, students create, revise, and evaluate scenic environments that balance creativity, function, safety, and production needs in digitally driven production contexts.

Notes

The updated significantly expands beyond the original A/B version by shifting from a primarily skills-based, production-focused course to a more comprehensive, industry-aligned program. The original course emphasized foundational design concepts such as drawing, color theory, model construction, and basic scenic production tasks, while the revised course introduces a clearer progression of learning that includes professional practices, safety integration, drafting, model building, construction workflows, and cross-department collaboration. Additionally, the new version strengthens career readiness by incorporating portfolio development, leadership, work-based learning, and a formal final assessment project, which were not explicitly structured in the original. Overall, the revised course reflects a more modern CTE approach by emphasizing project-based learning, real-world application, and employability skills alongside technical set design competencies.

Student Learning Outcomes

1. Career Exploration and Postsecondary Opportunities

Objective: *Students will explore and analyze career pathways in digitally based set design and scenic production for film, video, and live performance by examining professional roles, digital tools, work environments, industry collaboration, ethical and legal responsibilities, certifications, professional organizations, industry trends, time management practices, and Colorado postsecondary education options to make informed academic and career decisions.*

- 1) Identify employment opportunities in various fields with a focus in digitally based cinematography and film/video production set design.
cinematography and film/video production
 - a. Recognize the work typically performed, digital tools and technology used, and nature of work environments
 - b. Identify potential certifications within the careers
 - c. Find membership organizations associated with the careers
 - d. Understand the necessary education associated within the careers
- 2) Define professionalism within the context of digitally based cinematography and film/video production set design.
 - a. Criticism and evaluation
 - b. Presentation
 - c. Assessment
- 3) Recognize laws, regulations, and ethics significant to digitally based cinematography and film/video production, including responsible use of digital content and intellectual property.
- 4) Identify postsecondary opportunities offered in the state of Colorado
 - a. Technical college, community college, 4-year institutions
 - b. Certificates, associates, bachelor, and advanced degree opportunities
- 5) Analyze how set design professionals interact with other professionals within and across industries.
- 6) Explore time management techniques used by professional, noting key habits and best practices.
- 7) Explain the impact of digital technology and industry trends on the careers of set design professionals, including the impact on technical work, visualization workflows, and business management.

2. Safety, Professional Practice and Crew Responsibilities

Objective: *Students will apply professional safety practices and crew responsibilities by using appropriate digital and physical safety protocols, following expectations for device, software, and file management, understanding crew roles and chain-of-command, collaborating with team members through shared workflows, and evaluating scenic materials and digital assets for safety, durability, cost, and environmental impact.*

- 8) Apply safe work habits, including correct selection and use of Personal Protective Equipment (PPE), during all scenic design and construction activities.

- 9) Demonstrate safe and appropriate use of scene shop tools, equipment, and materials.
- 10) Analyze safety protocols specific to digital design labs, scene shops, studios, soundstages, and on-location production environments.
- 11) Differentiate the roles and responsibilities of technical crew members during build, production, and strike phases, including:
 - a. Designers
 - b. Technical Directors
 - c. Stage Management
 - d. Crew members responsible for materials selection
- 12) Collaborate with production team members to follow established safety procedures and chain-of-command expectations.
- 13) Evaluate scenic materials for safety, durability, cost, and environmental impact.

3. Foundations of Set Design and Visual Storytelling

Objective: *Students will analyze and apply foundational principles of set design by interpreting scripts, storyboards, and production concepts; applying elements of design to support narrative and visual continuity; and incorporating historical, cultural, and stylistic references to create authentic and coherent scenic environments using digitally based design processes.*

- 14) Explain foundational principles of set design for film, video, and theatrical productions.
- 15) Apply elements of design—including color, texture, line, mass, scale, and space—to support narrative and visual continuity.
- 16) Analyze scripts, storyboards, and production concepts to inform scenic design decisions.
- 17) Interpret historical, cultural, and stylistic references to ensure authenticity and coherence in set design.

4. Scenic Drawing, Drafting and Visualization

Objective: *Students will create and revise scenic drawings and visualizations by producing scaled digital drawings, ground plots, working and detail drawings, and perspective renderings using industry-standard conventions, and by adapting designs in response to feedback, technical constraints, and production changes.*

- 18) Produce scaled scenic drawings using digital drafting tools and industry-standard drafting conventions.
- 19) Develop digital ground plots, working drawings, and detail drawings to communicate construction requirements.
- 20) Create digital perspective renderings and visualizations to communicate spatial relationships and design intent.
- 21) Translate photographic references into original scenic designs, including:
 - a. Interior sets based on photographs
 - b. Original set design renderings
- 22) Revise digital drawings and visual assets in response to production feedback, technical constraints, or design changes.

5. Model Building and Prototyping

Objective: *Students will construct and evaluate digital and physical scale scenic models by building accurate prototypes, assessing proportion and functionality from performer and camera perspectives, and using models to communicate design concepts effectively to directors, designers, and technical staff.*

23) Construct digital and/or physical scale scenic models that accurately represent design intent.

24) Evaluate digital and physical models for proportion, functionality, and camera perspective.

25) Use digital and physical models to communicate design ideas to directors, designers, and technical staff.

6. Scenic Construction and Finishing

Objective: *Students will plan and execute scenic construction and finishing processes by using digital technical drawings to guide builds, constructing or simulating scenery and properties with appropriate tools and materials, applying digital scenic painting or texturing techniques to create realism, and adapting construction strategies to meet safety, time, and production constraints.*

26) Use digital technical drawings and plots to plan scenery, properties, and integrated scenic elements.

27) Construct, simulate, or prototype scenery and properties using appropriate digital tools, materials, and construction techniques.

28) Apply digital scenic painting, surfacing, or texturing techniques to create texture, depth, and realism.

29) Analyze construction challenges and adapt methods to meet safety, time, and production constraints.

7. Set Dressing, Lighting and Sound Integration

Objective: *Students will coordinate scenic elements within the broader production design by planning digital set dressing, collaborating with directors and design teams through shared workflows, and analyzing how lighting and sound interact with scenery to influence mood, depth, and storytelling effectiveness.*

30) Coordinate and plan digitally based set dressing using accessories and furnishings that support period, genre, and production concept.

31) Collaborate with designers, directors, and technical leadership to align scenic elements with the overall production vision.

32) Analyze how lighting and sound interact with scenic elements to affect mood, depth, and storytelling.

8. Post-Production, Strike and Asset Management

Objective: *Students will demonstrate responsible post-production and asset management practices by organizing, storing, and inventorying digital scenic assets and*

documentation, evaluating materials for reuse or recycling, and applying environmentally sustainable practices during project closeout and storage.

33) Demonstrate proper procedures for archiving, storing, and inventorying digital scenic elements, files, and equipment documentation.

34) Evaluate scenic materials for reuse, recycling, or responsible disposal.

35) Apply sustainable and environmentally responsible practices during post-production and strike.

9. Portfolio Development and Presentation

Objective: *Students will develop and present a professional digital set design portfolio by curating artifacts that demonstrate research, process, technical skill, creative decision-making, revision, and reflection, and by organizing materials for academic, career, and industry audiences.*

36) Curate digital portfolio artifacts such as research boards, sketches, renderings, models, screenshots, drafting documents, and reflections that demonstrate growth and technical proficiency.

37) Organize digital portfolio materials to communicate process, design intent, and final outcomes clearly to peers, instructors, and industry audiences.

38) Present portfolio work using appropriate digital, visual, written, and verbal communication strategies and revise materials based on critique and feedback.

10. Leadership and Professional Skills

Objective: *Students will demonstrate leadership and professional skills by contributing to team success, managing responsibilities, communicating effectively, showing initiative, and reflecting ethical and dependable workplace behaviors in production settings.*

39) Demonstrate leadership by setting goals, managing time, delegating tasks when appropriate, and supporting team accountability during design and production work.

40) Apply professional communication, collaboration, and conflict-resolution strategies in critiques, meetings, and production environments.

41) Exhibit professionalism through reliability, ethical behavior, preparedness, and respectful interaction with peers, instructors, and community or industry partners.

11. Work-Based Learning

Objective: *Students will participate in work-based learning experiences by applying classroom knowledge to authentic digitally based workplace contexts, documenting learning, practicing employability skills, and evaluating how real-world experiences inform career planning in set design and production.*

42) Engage in work-based learning experiences such as job shadows, guest industry interactions, client-based projects, internships, or workplace tasks connected to set design and production.

43) Document work-based learning experiences through logs, reflections, evaluations, or artifacts that demonstrate technical and employability skill development.

44) Analyze how workplace expectations, feedback, and industry standards influence personal career goals and future learning plans.

12. Final Assessment Project

Objective: *Students will complete a culminating digital assessment project by applying research, design development, digital drafting, modeling, production planning, collaboration, and presentation skills to create and justify a coherent set design solution that meets production goals, safety expectations, and professional standards.*

45) Develop a final digital set design project based on a script, production concept, or design brief that demonstrates research, visual storytelling, and alignment with production requirements.

46) Produce a set of supporting digital artifacts such as research images, sketches, scaled drawings, renderings, material selections, and/or digital models to communicate design intent and feasibility.

47) Apply safety, budgeting, and production planning considerations when proposing construction methods, scenic materials, set dressing, and strike or storage procedures.

48) Present and defend the final design solution to peers, instructors, or production stakeholders using appropriate technical vocabulary, visual evidence, and reflective explanation of revisions and decision-making.

13. Career and Technical Student Organizations

Objective: *Using the CTSO Resource Document, chapter activities will provide some of the best opportunities CTSO members will have to learn by doing. A successful program of work creates a positive learning atmosphere in the classroom. CTSO members learn how to accept responsibility, work as a team, manage a budget, and handle success and failure. Per the CTE Admin Handbook, CTSOs are embedded into curriculum.*

Professional Development

Prepare each member for entry into the workforce and provide a foundation for success in a career. Becoming a professional does not stop with acquiring a skill, but involves an increased awareness of the meaning of good citizenship and the importance of labor and management in the world of work.

Community Service

Promote and improve goodwill and understanding among all segments of the community through services donated by CTSO chapters, and to instill in its members a lifetime commitment to community service.

Business and Industry Connections

Increase awareness of quality job practices and attitudes, and increase the opportunities for employer engagement and eventual employment.

Financial Leadership

Plan and participate in activities to allow all members to carry out the chapter's projects. Educate members on their own personal finance for current and future success.

Public Relations

Make the general public aware of the good work that students in career and technical education are doing to better themselves and their community, state, nation, and world.

Social Activities

To increase cooperation in the school and community through activities that allow CTSO members to get to know each other in something other than a business or classroom setting.

Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)

[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Note: Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.

Reading, Writing and Communicating Crosswalk

Course: Set Design

Colorado Academic Standards – Reading, Writing and Communicating

Standard	Prepared Graduate Competency	Description	Course Evidence / Alignment
Standard 1: Oral Expression and Listening	Prepared Graduate 1 – Collaboration	Collaborate effectively as group members or leaders who listen actively and respectfully; pose thoughtful questions, acknowledge the ideas of others; and contribute ideas to further the group's attainment of an objective.	Students collaborate in design teams, participate in production meetings and critiques, listen to feedback, and contribute ideas to develop cohesive scenic designs.
Standard 1: Oral Expression and Listening	Prepared Graduate 2 – Oral Presentations	Deliver effective oral presentations for varied audiences and varied purposes.	Students present set design concepts, models, renderings, and design rationales for theatrical and media productions.
Standard 2: Reading for All Purposes	Prepared Graduate 4 – Informational Texts	Read a wide range of informational texts to build knowledge and to better understand the human experience.	Students read and apply informational texts such as scripts, ground plans, technical drawings, production

			requirements, and safety guidelines.
Standard 2: Reading for All Purposes	Prepared Graduate 5 – Language in Context	Understand how language functions in different contexts, command a variety of word-learning strategies to assist comprehension, and make effective choices for meaning or style when writing and speaking.	Students use appropriate scenic design and technical theatre vocabulary and adapt language for creative, technical, and collaborative contexts.
Standard 3: Writing and Composition	Prepared Graduate 7 – Informational Writing	Craft informational/explanatory texts using techniques specific to the genre.	Students write design statements, research summaries, production notes, reflections, and documentation explaining scenic design choices.
Standard 3: Writing and Composition	Prepared Graduate 9 – Writing Process	Demonstrate mastery of their own writing process with clear, coherent, and error-free polished products.	Students revise written documentation and refine design plans to produce clear, coherent, and production-ready set design materials.
Standard 4: Research Inquiry and Design	Prepared Graduate 10 – Research and Ethics	Gather information from a variety of sources; analyze and evaluate its quality and relevance; and use it ethically to answer complex questions.	Students research historical periods, styles, scripts, and production needs; evaluate sources; and apply ethical practices including safety and intellectual property awareness.

Free Resource Links

1. Career Exploration and Postsecondary Opportunities

- My Next Move (set design careers, job duties, education pathways)
<https://www.mynextmove.org/>
- CareerOneStop – Set and Exhibit Designers (career pathways, certifications, training options)
<https://www.careeronestop.org/>
- USITT (United States Institute for Theatre Technology) (set design careers, professional organizations, industry standards)
<https://www.usitt.org/>
- StageJobsPro (theatre and scenic design career listings, industry roles)
<https://www.stagejobspro.com/>

2. Safety, Professional Practice and Crew Responsibilities

- USITT Safety Resources (scene shop safety, PPE, industry best practices)
<https://www.usitt.org/safety>
- OSHA – Entertainment Industry Safety (workplace safety, hazard prevention)
<https://www.osha.gov/entertainment>
- Theatre Safety Blog (shop safety, backstage procedures, materials handling)
<https://theatersafetyblog.com/>
- Stage Directions – Theatre Safety (crew responsibilities, professional conduct)
<https://www.stage-directions.com/>

3. Foundations of Set Design and Visual Storytelling

- National Theatre Learning (set design principles, visual storytelling)
<https://www.nationaltheatre.org.uk/learn>
- Drama Notebook – Set Design Basics (design elements, storytelling through scenery)
<https://www.dramanotebook.com/>
- BBC Bitesize – Set Design (theatre design concepts, visual storytelling)
<https://www.bbc.co.uk/bitesize>
- Designing the Set Blog (design theory, narrative support through environments)
<https://www.designingtheset.com/>

4. Scenic Drawing, Drafting and Visualization

- Stagecraft Fundamentals (ground plans, drafting conventions, scenic drawings)
<https://www.stagecraftfundamentals.com/>
- USITT Design Resources (drafting standards, scenic visualization)
<https://www.usitt.org/>
- Drama Notebook – Scenic Drawing (scaled drawings, perspective renderings)
<https://www.dramanotebook.com/>
- Instructables – Scenic Drafting (basic drafting and visualization techniques)
<https://www.instructables.com/>

5. Model Building and Prototyping

- USITT Scenic Model Resources (scale models, design communication)
<https://www.usitt.org/>
- Drama Notebook – Model Making (scale models, proportion, presentation)
<https://www.dramanotebook.com/>
- Stagecraft Fundamentals – Model Building (scenic prototypes, materials)
<https://www.stagecraftfundamentals.com/>
- Instructables – Model Making (hands-on model construction techniques)
<https://www.instructables.com/>

6. Scenic Construction and Finishing

- Stagecraft Fundamentals – Scenic Construction (building techniques, tools, materials)
<https://www.stagecraftfundamentals.com/>
- USITT Scenic Construction Resources (construction methods, safety practices)
<https://www.usitt.org/>
- TheatreArtLife (scenic construction, finishing techniques, realism)
<https://www.theatreartlife.com/>
- Instructables – Scenic Painting (paint techniques, texture, depth)
<https://www.instructables.com/>

7. Set Dressing, Lighting and Sound Integration

- TheatreArtLife – Set Dressing (props, dressing techniques, collaboration)
<https://www.theatreartlife.com/>
- USITT Collaboration Resources (integration of scenery, lighting, and sound)
<https://www.usitt.org/>
- Stage Directions – Production Design (cross-department collaboration)
<https://www.stage-directions.com/>
- National Theatre Learning – Design Teams (design collaboration, production vision)
<https://www.nationaltheatre.org.uk/learn>

8. PostProduction, Strike and Asset Management

- USITT Strike and Load-Out Guidelines (strike procedures, equipment storage)
<https://www.usitt.org/>
- Theatre Green Book (sustainable theatre practices, reuse and recycling)
<https://theatregreenbook.com/>
- Stage Directions – Backstage Operations (inventory, storage, post-production)
<https://www.stage-directions.com/>
- Drama Notebook – Theatre Management (asset tracking, organization)
<https://www.dramanotebook.com/>

9. Research, Ethics and Professional Reflection

- Drama Online Library Blog (theatre history, styles, research methods)
<https://www.dramaonlinelibrary.com/>

- National Theatre Collection (historical references, ethical representation)
<https://www.nationaltheatre.org.uk/learn>
- Smithsonian Theater Resources (historical and cultural context in design)
<https://www.si.edu/>
- Backstage – Theatre Design Articles (professional reflection, critique practices)
<https://www.backstage.com/magazine/>

10. Portfolio Development and Presentation

- Adobe Portfolio (professional portfolios, showcasing design work)
<https://portfolio.adobe.com/>
- USITT Portfolio Resources (set design portfolios, documentation, presentation)
<https://www.usitt.org/>
- Canva Presentation Templates (portfolio presentation, visual organization)
<https://www.canva.com/templates/>
- ArtStation (creative portfolios, visual storytelling and design showcases)
<https://www.artstation.com/>

11. Leadership and Professional Skills

- MindTools – Leadership Skills (communication, teamwork, decision-making)
https://www.mindtools.com/pages/main/newMN_LDR.htm
- SkillsYouNeed – Leadership (collaboration, conflict resolution, professionalism)
<https://www.skillsyouneed.com/lead/>
- TED Talks – Leadership (leadership perspectives, communication skills)
<https://www.ted.com/topics/leadership>
- National Society of Leadership and Success (leadership development, goal setting)
<https://www.nsls.org/>

12. Work-Based Learning

- CareerOneStop – Work-Based Learning (internships, apprenticeships, career exploration)
<https://www.careeronestop.org/ExploreCareers/learn/work-based-learning.aspx>
- Colorado Work-Based Learning (state guidance, employer connections)
<https://cdle.colorado.gov/work-based-learning>
- ACTE Work-Based Learning Resources (career readiness, employability skills)
<https://www.acteonline.org/professional-development/work-based-learning/>
- USITT Career Resources (set design careers, networking, industry pathways)
<https://www.usitt.org/>

13. Final Assessment Project

- PBS LearningMedia – Media Production Projects (project ideas, assessment, rubrics)
<https://www.pbslearningmedia.org/>
- National Theatre Learning (set design projects, production examples)
<https://www.nationaltheatre.org.uk/learn>

- Instructables – Set Design Projects (hands-on builds, scenic construction examples)
<https://www.instructables.com/>
- Rubistar (project rubrics, assessment tools)
<https://www.rcampus.com/rubistar/>



Technology Student Association – National Competitive Events

Digital Video Production

Objective: Students will plan, edit, document, and present an original digital video that meets TSA Digital Video Production requirements for storytelling, technical production, copyright compliance, and interview presentation.

- Research the annual TSA Digital Video Production theme and develop an original video concept.
- Analyze the story, audience, purpose, visual style, pacing, emotional content, and technical requirements before editing.
- Organize media assets, footage, audio, graphics, titles, and project files using appropriate editing workflow practices.
- Edit the production using timeline editing, trimming, transitions, audio mixing, effects, titles, compositing, color correction, and visual storytelling techniques.
- Apply narrative, technical, and emotional continuity to improve clarity, flow, and audience impact.
- Document the production through a portfolio that includes purpose, storyboard, script, hardware/software list, references, permissions, consent forms, and work log.
- Participate in an interview explaining the video concept, editing process, technical decisions, creative choices, and theme connection.

Resources

- Technology Student Association – Digital Video Production competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Adobe Premiere Pro – Video editing and production tools
<https://www.adobe.com/products/premiere.html>
- Adobe After Effects – Motion graphics and visual effects tools
<https://www.adobe.com/products/aftereffects.html>
- DaVinci Resolve – Video editing, color, audio, and post-production tools
<https://www.blackmagicdesign.com/products/davinciresolve>



Technology Student Association – National Competitive Events

On Demand Video

Objective: *Students will work as a production team to create, edit, and submit an original short film during an on-site TSA challenge using required criteria revealed at the event orientation.*

- Analyze the on-site video prompt, required criteria, filming restrictions, deadline, and submission procedures.
- Plan a short video concept that incorporates the required props, dialogue, topic, idea, or other event criteria.
- Organize footage, audio, graphics, and project files for an efficient short-form editing workflow.
- Edit the footage into a complete short video using timeline editing, trimming, transitions, sound, titles, pacing, and visual storytelling.
- Apply effects, motion parameters, speed changes, compositing, or color correction when they strengthen the final production.
- Troubleshoot editing, audio, format, export, or submission issues within the competition time limit.
- Evaluate the final video using TSA criteria for creativity, communication, production quality, adherence to requirements, and overall impact.

Resources

- Technology Student Association – On Demand Video competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Adobe Premiere Pro – Video editing tools
<https://www.adobe.com/products/premiere.html>
- DaVinci Resolve – Video editing, color, audio, and post-production tools
<https://www.blackmagicdesign.com/products/davinciresolve>
- Canva – Storyboarding, planning, and production graphics
<https://www.canva.com/>



Technology Student Association – National Competitive Events

STEM Mass Media

Objective: *Students will research, write, edit, produce, and revise STEM-focused news content that informs a public audience in alignment with TSA STEM Mass Media competition requirements.*

- Research the annual STEM Mass Media theme and identify the key information needed for an informative media story.
- Develop a clear story angle, audience focus, segment structure, and communication purpose.
- Write or revise news copy, interview questions, narration, voiceover, anchor scripts, or rundowns for a broadcast-style media product.
- Edit video, audio, graphics, titles, interviews, and B-roll into a clear and polished news package.
- Apply pacing, continuity, audio mixing, titles, color correction, and visual hierarchy to improve audience understanding.
- Revise the media product for accuracy, organization, sound quality, visual clarity, pacing, and professionalism.
- Evaluate the final media product using TSA criteria for accuracy, organization, creativity, communication, and technical quality.

Resources

- Technology Student Association – STEM Mass Media competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Adobe Premiere Pro – Video editing and broadcast production tools
<https://www.adobe.com/products/premiere.html>
- NPR Training – Journalism, audio, and storytelling resources
<https://training.npr.org/>
- Poynter – Journalism and media literacy resources
<https://www.poynter.org/>