

Animation I

Level: 2

Career Cluster: Media Arts

Program: Design and Digital Arts

Pathway: Graphic Design

Course Catalog Description

Introduces students to the principles and production processes of traditional and digital animation, including story development, character design, visual storytelling, frame-by-frame techniques, compositing, and collaborative workflows using industry-relevant tools.

Summary

Introduces students to the fundamentals of traditional and digital animation through the application of core design principles, motion, and storytelling. Students develop skills in character design, story development, and visual composition while producing both 2D and 3D animations using industry-relevant tools and workflows. The course emphasizes preproduction planning, frame-by-frame animation techniques, digital compositing, and audio integration, as well as collaboration and project-based production. Through hands-on projects, critique, and iterative refinement, students build technical and creative skills in animation while exploring career pathways and preparing for advanced study in animation and digital media fields.

Notes

The updated course reflects a shift from a traditional, introduction-level animation course to a more structured and industry-aligned program that integrates both creative and technical skill development. The original course primarily focused on foundational animation concepts such as basic drawing, simple animation techniques, and introductory storytelling. In contrast, the revised course expands these foundations into clearly defined learning strands that cover the full animation production pipeline, including story development, asset creation, frame-by-frame animation, digital compositing, audio integration, and the use of industry tools. Additionally, the new version emphasizes collaboration, project-based workflows, and iterative critique while introducing portfolio development, leadership, and work-based learning components. These updates strengthen alignment with current CTE expectations by emphasizing real-world application, digital production practices, and preparation for advanced coursework and animation-related careers.

Student Learning Outcomes

1. Career Exploration and Postsecondary Opportunities

Objective: *Students will explore and analyze career pathways related to production management in graphic design by examining professional roles, tools, work environments, ethical and legal expectations, certifications, professional organizations, and Colorado postsecondary education options to make informed academic and career decisions.*

- 1) Identify employment opportunities in various fields with a focus in the area of graphic design
 - a. Recognize the work typically performed, 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 graphic design
 - a. Criticism and evaluation
 - b. Presentation
 - c. Assessment
- 3) Recognize laws, regulations, and ethics significant to the fields of graphic design
- 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

2. Foundations of Animation and Visual Design

Objective: *Students will apply foundational visual design principles and animation concepts to create characters, environments, and scenes that clearly communicate form, motion, and visual intent.*

- 5) Apply elements and principles of design (line, shape, color, texture, balance, contrast) to character and scene composition.
- 6) Compose characters and environments using sound visual hierarchy and spatial relationships.
- 7) Analyze how design choices influence readability, emotion, and storytelling in animation.
- 8) Refine visual designs through iteration and feedback.

3. Story Development, Concept Design and Pre-Production

Objective: *Students will develop original animation concepts by planning narratives, designing visual sequences, and preparing production materials that guide the animation process.*

- 9) Produce a written treatment that outlines concept, theme, characters, and story arc.
- 10) Create storyboards that communicate shot sequence, timing, and camera movement.
- 11) Design layouts that define staging, composition, and background placement.

12) Analyze narrative clarity and pacing during pre-production planning.

4. Background Design and Digital Asset Creation

Objective: *Students will create and manage background assets using multiple digital tools and source materials to support animated scenes and visual continuity.*

13) Create backgrounds using digital illustration, image editing software, or digital capture methods.

14) Apply perspective, scale, and environmental design principles to backgrounds.

15) Organize digital assets using effective file-naming and folder structures.

16) Evaluate background effectiveness based on scene needs and storytelling.

5. Traditional Animation Techniques and Frame-by-Frame Production

Objective: *Students will apply traditional animation techniques by producing frame-by-frame sequences that demonstrate motion, timing, and clarity using iterative testing.*

17) Develop frame-by-frame animation sequences using rough and refined drawings.

18) Apply pencil testing to evaluate motion, timing, and spacing.

19) Analyze movement quality and make revisions to improve animation flow.

20) Demonstrate consistency in character construction and motion across frames.

6. Digital Ink, Paint, Compositing and Audio Integration

Objective: *Students will integrate digital finishing techniques by applying ink, color, compositing, and basic audio synchronization to complete animated scenes.*

21) Examine and apply digital ink and paint workflows.

22) Composite characters, backgrounds, and effects layers into final scenes.

23) Synchronize basic audio elements to animated visuals.

24) Evaluate how color, layering, and sound enhance animation quality and clarity.

7. Principles of Character and Effects Animation

Objective: *Students will apply fundamental animation principles to create expressive, believable character movement and visual effects.*

25) Apply core animation principles such as squash and stretch, anticipation, timing, spacing, staging, and follow-through.

26) Analyze character performance and effects animation for clarity and intent.

27) Refine animation based on instructor and peer critique.

8. Animation Software and Industry Tools

Objective: *Students will utilize professional-grade animation software to produce animated content consistent with current industry expectations.*

28) Use appropriate animation software tools for drawing, timing, layering, and playback.

29) Demonstrate efficient digital workflows aligned to industry production practices.

30) Apply resolution, frame rate, and export settings correctly for animation delivery.

9. Collaboration, Team Production and Professional Workflow

Objective: *Students will collaborate in industry team environments to plan, manage, and produce an animated project using professional production roles and workflows.*

31) Form and participate in functional creative teams that replicate industry production structures.

32) Define and assume project roles such as designer, animator, background artist, or editor.

33) Develop a shared production vision, task list, and workflow.

34) Apply professional communication, time management, and collaboration strategies.

10. Portfolio Development

Objective: *Students will develop and curate a professional animation portfolio that demonstrates technical growth, creative range, process documentation, and readiness for advanced study or career opportunities.*

35) Select animation work samples that demonstrate skill development, creativity, and range.

36) Organize portfolio content to present completed work, drafts, and evidence of process.

37) Write concise artist statements, project summaries, or reflections that explain design choices and learning.

38) Refine portfolio presentation based on feedback and intended audience.

11. Leadership

Objective: *Students will demonstrate leadership by contributing responsibly to team goals, modeling professionalism, and applying communication and decision-making skills in classroom and project settings.*

39) Demonstrate leadership behaviors such as initiative, accountability, and respectful collaboration.

40) Apply effective communication and problem-solving strategies to support group success.

41) Evaluate personal contributions and leadership growth through reflection and feedback.

42) Model ethical behavior, dependability, and professionalism in production environments.

12. Work-Based Learning

Objective: *Students will connect classroom learning to career readiness through work-based learning experiences, professional expectations, and reflection on workplace skills relevant to animation and digital media.*

- 43) Identify workplace expectations, employability skills, and habits of successful creative professionals.
- 44) Examine how classroom projects align to industry workflows, deadlines, and client or audience needs.
- 45) Demonstrate readiness for internships, client-based projects, job shadows, or workplace experiences.
- 46) Reflect on work-based learning experiences to identify strengths, challenges, and next steps for growth.

13. Final Assessment Project

Objective: *Students will complete a final animation project that synthesizes course learning through planning, production, revision, and presentation of an original or team-based animated work.*

- 47) Plan and manage a final project timeline, deliverables, and production process.
- 48) Produce a completed animation project that demonstrates technical skill, storytelling, and design intent.
- 49) Revise project components in response to critique, testing, and self-assessment.
- 50) Present and justify final project decisions using appropriate animation and design vocabulary.

14. 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 & 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: Animation I

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 during animation production, critiques, and group projects, listening to feedback and contributing ideas to meet creative objectives.
Standard 1: Oral Expression and Listening	Prepared Graduate 2 – Oral Presentations	Deliver effective oral presentations for varied audiences and varied purposes.	Students present animation concepts, story ideas, and completed animations to peers and instructors.
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 instructional materials, software tutorials, animation principles, and production 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 precise animation and visual media vocabulary and adapt communication style for technical and creative contexts.
Standard 3: Writing and Composition	Prepared Graduate 7 – Informational Writing	Craft informational/explanatory texts using techniques specific to the genre.	Students write project descriptions, production notes, reflections, and explanations of animation techniques.
Standard 3: Writing and Composition	Prepared Graduate 8 – Narrative Writing	Craft narratives using techniques specific to the genre.	Students develop narratives through storyboards, scripts, timing, sequencing, and visual storytelling.
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, edit, and refine written and visual components to produce polished animation projects.
Standard 4: Research Inquiry and Design	Prepared Graduate 10 – Research & 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 animation styles, techniques, and references; evaluate sources; and apply ethical practices including copyright and attribution.

Free Resource Links

1. Career Exploration and Postsecondary Opportunities

- Animation Career Review (animation careers, salary, education)
<https://www.animationcareerreview.com/>
- My Next Move (career exploration, animation roles, pathways)
<https://www.mynextmove.org/>
- ONET Online (job profiles, animation skills, outlook)
<https://www.onetonline.org/>
- College Board BigFuture (postsecondary pathways, majors, careers)
<https://bigfuture.collegeboard.org/>

2. Foundations of Animation and Visual Design

- Pixar in a Box (animation principles, storytelling, design)
<https://www.khanacademy.org/partner-content/pixar>
- Ctrl+Paint (digital drawing, design fundamentals)
<https://www.ctrlpaint.com/library>
- Drawspace (drawing fundamentals, visual design)
<https://www.drawspace.com/>
- Canva Design School (design principles, visual communication)
<https://www.canva.com/learn/design/>

3. Story Development, Concept Design and Pre-Production

- Storyboard That (storyboarding, visual storytelling)
<https://www.storyboardthat.com/>
- StudioBinder (storyboarding, shot lists, preproduction)
<https://www.studiobinder.com/>
- Boords Storyboarding (storyboards, planning, sequencing)
<https://boords.com/>
- Khan Academy Storytelling Resources (narrative, story structure)
<https://www.khanacademy.org/arts-humanities/storytelling>

4. Background Design and Digital Asset Creation

- Sketchfab (3D models, reference assets, environments)
<https://sketchfab.com/>
- Textures.com (textures, background assets)
<https://www.textures.com/>
- Unsplash (reference photos, backgrounds, environments)
<https://unsplash.com/>
- Pixabay (free images, backgrounds, design assets)
<https://pixabay.com/>

5. Traditional Animation Techniques and Frame-by-Frame Production

- Animator Island (animation principles, exercises)
<https://www.animatorisland.com/>

- 11 Second Club (animation practice, critiques)
<https://www.11secondclub.com/>
- Animation Mentor Resources (principles, timing, movement)
<https://www.animationmentor.com/blog/>
- Alan Becker Tutorials (animation basics, frame-by-frame)
<https://www.youtube.com/@AlanBeckerTutorials>

6. Digital Ink, Paint, Compositing and Audio Integration

- OpenToonz (free animation software, ink & paint tools)
<https://opentoonz.github.io/>
- Blender (animation, compositing, rendering)
<https://www.blender.org/>
- DaVinci Resolve (video editing, compositing, audio)
<https://www.blackmagicdesign.com/products/davinciresolve>
- Audacity (audio editing, sound integration)
<https://www.audacityteam.org/>

7. Principles of Character and Effects Animation

- Animation Resources (animation principles, examples)
<https://animationresources.org/>
- The Animator's Survival Kit Blog (timing, motion, character animation)
<https://www.theanimatorsurvivalkit.com/>
- Line of Action (gesture drawing, character movement)
<https://line-of-action.com/>
- Proko (figure drawing, character anatomy, motion)
<https://www.proko.com/>

8. Animation Software and Industry Tools

- Blender Tutorials (3D animation, workflows)
<https://www.blender.org/support/tutorials/>
- Krita Animation (2D animation tools, tutorials)
<https://krita.org/en/features/animation/>
- Toon Boom Learn (animation software tutorials, workflows)
<https://learn.toonboom.com/>
- Autodesk Education (Maya learning resources, 3D animation)
<https://www.autodesk.com/education>

9. Collaboration, Team Production and Professional Workflow

- Trello (project management, task tracking)
<https://trello.com/>
- Google Workspace (collaboration, shared production files)
<https://workspace.google.com/>
- Milanote (creative planning, visual collaboration)
<https://milanote.com/>

- Slack (team communication, workflow collaboration)
<https://slack.com/>

10. Portfolio Development

- ArtStation (animation portfolios, showcasing digital work, industry examples)
<https://www.artstation.com/>
- Behance (creative portfolios, animation projects, professional presentation)
<https://www.behance.net/>
- Adobe Portfolio (portfolio creation, animation showcase, web presentation)
<https://portfolio.adobe.com/>
- Frame.io Blog – Showreels (video portfolios, demo reels, feedback and revision)
<https://blog.frame.io/>

11. Leadership

- 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 (communication, influence, creative leadership)
<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/>
- Animation Career Review (career pathways, industry expectations)
<https://www.animationcareerreview.com/>

13. Final Assessment Project

- PBS LearningMedia – Media Production Projects (project ideas, assessment, rubrics) <https://www.pbslearningmedia.org/>
- 11 Second Club (animation projects, critique, performance-based practice)
<https://www.11secondclub.com/>
- Film Riot (project-based filmmaking and animation concepts)
<https://www.youtube.com/@filmriot>
- Rubistar (project rubrics, assessment tools)
<https://www.rcampus.com/rubistar/>



Technology Student Association – National Competitive Events

Digital Video Production

Objective: *Students will plan, produce, 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 or animated short concept.
- Create a written treatment, storyboard, script, or production plan that guides the project.
- Design characters, scenes, backgrounds, motion sequences, titles, graphics, or visual effects to support the story.
- Produce and edit an original video using appropriate animation, compositing, audio, lighting, pacing, and visual storytelling techniques.
- Document the production through a portfolio that includes purpose, storyboard, script, hardware/software list, references, permissions, consent forms, and work log.
- Submit the video and documentation portfolio according to TSA competition procedures.
- Participate in an interview explaining the video concept, production process, technical decisions, and creative choices.

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>
- Blender – 3D animation, modeling, and rendering software
<https://www.blender.org/>
- YouTube Creator Academy – Video production and storytelling resources
<https://www.youtube.com/creators/>



Technology Student Association – National Competitive Events

Virtual Reality Simulation (VR)

Objective: *Students will design, develop, document, and present a virtual reality simulation that uses 3D graphics and immersive design to communicate a scientific, technical, or conceptual topic aligned with TSA Virtual Reality Simulation requirements.*

- Research the annual TSA Virtual Reality Simulation theme and identify a topic, concept, or process that can be effectively communicated through VR.
- Plan the simulation using sketches, storyboards, scene layouts, user-flow diagrams, or interaction maps.
- Design 3D environments, characters, objects, animations, sound, or visual effects that support the simulation.
- Develop a virtual environment using appropriate 3D modeling, animation, game engine, sound, and interaction tools.
- Apply design principles related to immersion, navigation, user experience, visual clarity, pacing, and technical communication.
- Prepare a documentation portfolio that explains research, purpose, design process, software/hardware used, development decisions, and revisions.
- Present the VR simulation and explain the purpose, value, research, and design process during the interview.

Resources

- Technology Student Association – Virtual Reality Simulation (VR) competition guidelines
<https://tsaweb.org/competitions-programs/tsa/themes-problems>
- Unity Learn – VR and interactive 3D development tutorials
<https://learn.unity.com/>
- Unreal Engine – Virtual reality development resources
<https://dev.epicgames.com/documentation/en-us/unreal-engine/virtual-reality-development-in-unreal-engine>
- Blender – 3D modeling and animation software
<https://www.blender.org/>