

Animation





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The purpose of this document is to communicate the required Career and Technical Education (CTE) academic standards for the Animation Program of Study. The academic standards in this document are theoretical and performance-based. They contain content from the states of Colorado, Maryland, Tennessee, and Texas and were validated by DC business and industry partners. All content is used with permission.

In addition to academic standards, OSSE has incorporated into this document Labor Market Information (LMI) definitions and explanations for the Program of Study; program aligned Industry Recognized Credentials; Work-Based Learning resources and requirements by course level; and a recommended equipment and supply list.

This document is intended for use by educational administrators and practitioners. A similar document is available for each state-approved CTE Program of Study.



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Course Descriptions: Animation

Course Level	Course Information	Description
Level I	Principles of Arts, A/V Technology, and Communications OSSEID: 11051G1.0014 Grades: 9-12 Prerequisite: None Credit: 1	Careers in the Arts, Audio/Video Technology, and Communications Career Cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and proficiency in oral and written communication. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities.
Level II	Animation I OSSEID: 05256G1.0024 Grades: 10-12 Prerequisite: Principles of Arts, A/V Technology, and Communications Credit: 1	Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
Level III	Animation II OSSEID: 05256G1.0034 Grades: 11-12 Prerequisite: Animation I Credit: 1	: Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
Level IV	Practicum in Animation OSSEID: 05950G1.0044 Grades: 12 Prerequisite: Animation II Credit: 1	The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses. Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.



Industry Certifications

Adobe Certified Associate (ACA) - Animate
 Adobe Certified Associate (ACA) - Flash
 Adobe Certified Associate (ACA) - Illustrator
 Adobe Certified Associate (ACA) – Photoshop

Work-Based Learning Examples and Resources

Level I Course	Level II Course	Level III Course	Level IV Course
Career Exploration Industry Visits Guest Speakers Participate in a CTSO	Career Awareness <i>All of Level I, plus:</i> Postsecondary Visits Program- Specific Site Tours Mock Interviews	Career Preparation <i>All of Level I and II, plus:</i> Job Shadow Paid/Unpaid Internships	Career Preparation Paid/Unpaid Internships Apprenticeships

Several resources are available to help instructors meet the Level I and Level II WBL requirements, including:

Career Coach DC (<http://careercoachdc.emsicc.com>) Online site designed to help students find and connect to a career pathway by providing the most current local data on wages, employment, job postings, and associated education and training. The resource includes a Career Assessment for students.

Nepris (<https://dc.nepris.com/>). Connects educators and learners with a network of industry professionals virtually, bringing real-world relevance and career exposure to all students. Nepris also provides a skills-based volunteering platform for business and industry professionals to extend their educational outreach.

Virtual Job Shadow (<https://virtualjobshadow.com>). Provides interactive tools which empower students to discover, plan, and pursue their dreams. Rich video library presents a “day in the life of” view for thousands of occupations.

Labor Market Information Definitions and Data

Career and Technical Education programs of study in the District of Columbia must meet at least one of the High Wage, High Skill, and In-Demand definitions below to be considered appropriate for our students and the regional labor market. These definitions were created in collaboration with Career and Technical Education leaders from District of Columbia LEAs, the University of the District of Columbia Community College, and national guidance from Research Triangle International (RTI) and Education Northwest. Additionally, previous work was consulted by researchers at MIT’s Labor Wage Index Project and the DC CTE Task Force’s 2012 Strategic Plan for the District of Columbia.



Indicator	Definition	Data for the Animation Program of Study (source: EMSI, August 2022)
<p>High Wage</p>	<p>Those occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the District of Columbia, and/or leads to a position that pays at least the median hourly or annual wage for the Washington, DC, metropolitan statistical area.</p> <p><i>Note: A 25th percentile hourly wage of \$23.13 or greater is required to meet this definition.</i></p>	<p>Standard Occupational Code (SOC): 27-1014.00 Special Effects Artists and Animators</p> <p>Hourly Wages 25th Percentile: \$29.48 50th Percentile: \$37.99 75th Percentile: \$48.31</p>
<p>High Skill</p>	<p>Those occupations located within the Washington, DC, metropolitan statistical area with the following education or training requirements: completion of an apprenticeship program; completion of an industry-recognized certification or credential; associate’s degree, or higher.</p>	<p>Typical Entry-Level Education: Bachelor’s Degree</p>
<p>In-Demand</p>	<p>Those occupations in the Washington, DC, metropolitan statistical area having more than the median number of total (growth plus replacement) annual openings over a five-year period.</p> <p><i>Note: An occupation is required to have an annual growth plus replacement rate of 105 openings, or greater, between 2021-2026 to meet this definition.</i></p>	<p>Annual Openings: 58</p>



Model Six-Year Plan: Audio/Video Production

College: University of the District of Columbia Community College

Entity: Office of the State Superintendent of Education

Program/CIP:

Career Cluster: Arts, A/V Technology, and Communications

Plan:

Program of Study: Animation

High School					College			
Subject	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Semester I	Semester II	Semester III	Semester IV
English (4)	English I	English II	English III	English IV				
Math (4)	Algebra I	Geometry	Algebra II	Math				
Science (4)	Biology	Lab Science	Lab Science	Science				
Social Studies (4)	World History and Geography I: Middle Ages	World History and Geography II: Modern World	U.S. History	U.S. Government (.5) and DC History (.5)				
Health (.5) and Physical Ed (1)	Health (.5) Physical Ed (.5)	Physical Ed (.5)						
World Languages (2)			World Language I	World Language II				
Art (.5)		Art (.5)						
Music (.5)		Music (.5)						
Elective / Major Courses	Principles of Arts, A/V Technology, and Communications	Animation I	Animation II	Practicum in Animation				
Total possible college credits completed in high school: XX					Credit hours required to complete the AAS program: XX			



Course Standards

Principles of Arts, Audio/Video Technology, and Communications

1. **General requirements.** This course is recommended for students in Grade 9-12. Students shall be awarded one credit for successful completion of this course.
2. **Introduction.**
 - A. Career and technical education instruction provides students with industry-aligned content, challenging academic standards, and relevant technical knowledge to further their education and succeed in current or emerging professions.
 - B. The Arts, Audio/Video Technology, and Communications Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
 - C. Careers in the Arts, Audio/Video Technology, and Communications Career Cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities.
 - D. Students will participate in at least two Career Exploration Work-Based Learning experiences in this course, which might include guest speakers and work-place tours relevant to the program of study.
 - E. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
3. **Knowledge and skills.**
 - A. **The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:**
 1. explore opportunities in training, education, and certifications for employment;
 2. demonstrate professional standards and personal qualities needed to be employable such as oral and written communication, leadership, teamwork, appreciation for diversity, conflict management, customer service, work ethic, and adaptability;
 3. demonstrate skills related to seeking and applying for employment;
 4. create a resume and cover letter/letter of interest to document information such as work experiences, licenses, certifications, and work samples; and
 5. demonstrate skills in evaluating and comparing employment opportunities.



- B. The student applies English language arts in Arts, Audio/Video Technology, and Communications projects. The student is expected to:**
1. demonstrate use of content, technical concepts, and vocabulary;
 2. use correct grammar, punctuation, and terminology to write and edit documents;
 3. identify assumptions, purpose, and propaganda techniques;
 4. compose and edit copy for a variety of written documents;
 5. evaluate oral and written information; and
 6. research topics for the preparation of oral and written communication.
- C. The student applies professional communications strategies. The student is expected to:**
1. adapt language structure and style for audience, purpose, situation, and intent;
 2. organize oral and written information;
 3. interpret and communicate information, data, and observations;
 4. deliver formal and informal presentations;
 5. apply active listening skills to obtain and clarify information;
 6. develop and interpret tables, charts, and figures to support written and oral communications;
 7. listen to and speak with diverse individuals; and
 8. exhibit public relations skills to increase internal and external customer/client satisfaction.
- D. The student understands and examines problem-solving methods. The student is expected to:**
1. employ critical-thinking skills independently and in groups; and
 2. employ interpersonal skills in groups to solve problems.
- E. The student uses technology applications when completing Arts, Audio/Video Technology, and Communications projects and processes. The student is expected to:**
1. use technology applications such as social media, email, Internet, writing and publishing, presentation, and spreadsheet or database applications for Arts, Audio/Video Technology, and Communications projects; and
 2. use processes such as personal information management, file management, and file sharing.
- F. The student understands arts, audio/video technology, and communications systems. The student is expected to:**
1. describe the nature and types of businesses in arts, audio/video technology, and communications;
 2. analyze and summarize the history and evolution of the arts, audio/video technology, and communications fields of study;
 3. analyze the arts, audio/video technology, and communications economic base; and
 4. analyze and summarize evidence of interdependence between the technical and the artistic sides of arts, audio/video technology, and communications.
- G. The student understands principles of audio/video production. The student is expected to:**
1. apply knowledge of audio and video script production;
 2. discuss the impact of audio and video selection on human emotion;
 3. demonstrate the use of audio and video for a three-screen environment, including cell phones, television monitors, and computer screens;



4. demonstrate various videography techniques, including picture composition, video composition, audio composition, editing, and delivery;
 5. understand the differences between linear and nonlinear systems; and
 6. demonstrate knowledge of control peripherals for capturing or ingesting media.
- H. **The student understands principles of fashion design that impact consumer purchasing of fashion and apparel accessories. The student is expected to:**
1. describe social, cultural, and life cycle influences;
 2. explain how fashion trends are determined; and
 3. analyze the influence of advertising on consumer apparel choices.
- I. **The student understands principles of video game design. The student is expected to:**
1. demonstrate knowledge and appropriate use of computer operating systems;
 2. demonstrate appropriate use of hardware components, software programs, and storage devices;
 3. demonstrate knowledge of sound editing;
 4. demonstrate knowledge of file formats and cross-platform compatibility;
 5. acquire and exchange information in a variety of electronic file sharing formats; and
 6. combine graphics, images, and sound.
- J. **The student understands principles of graphic design and illustration. The student is expected to:**
1. research the history of visual arts and design;
 2. explain the evolution of art and design;
 3. compare current visual arts technologies with historical technologies;
 4. understand general characteristics in artwork from a variety of cultures; and
 5. analyze and apply art elements and principles in photographic works, multimedia applications, and digital and print media.
- K. **The student understands principles of commercial photography. The student is expected to:**
1. demonstrate knowledge of photographic composition and layout; and
 2. evaluate photographs using principles of art, commercial photography standards, and critical-thinking skills.
- L. **The student understands principles, elements, and techniques of animation. The student is expected to:**
1. describe and use audience identification, script writing, character design, storyboarding, and audio and delivery formats;
 2. describe and use cell, stop motion, tweening, motion paths, masking, looping, scripting/programming, and interactivity;
 3. describe lighting and camera shots; and
 4. describe and use flip books, claymation, or cut-outs.
- M. **The student understands principles of printing and imaging. The student is expected to:**
1. identify processes required for the production of various printed products;
 2. identify basic design elements such as text, graphics, and white space; and
 3. demonstrate basic knowledge of color theory.



- N. The student applies safety regulations. The student is expected to:**
1. implement personal and classroom safety rules and regulations; and
 2. follow emergency procedures as needed.
- O. The student identifies and develops leadership characteristics. The student is expected to:**
1. identify leadership characteristics; and
 2. participate in student leadership and professional development activities.
- P. The student applies ethical decision making and understands and complies with laws regarding use of technology in arts, audio/video technology, and communications. The student is expected to:**
1. demonstrate an understanding of ethical conduct related to interacting with others such as maintaining client confidentiality and privacy of sensitive content and giving proper credit for ideas;
 2. examine the First Amendment, Federal Communications Commission regulations, Freedom of Information Act, liability laws, and other regulations for compliance issues;
 3. examine the liabilities, copyright laws, fair use, and duplication of materials associated with productions and performances;
 4. analyze the impact of arts, audio/video technology, and communications industries on society;
 5. demonstrate an understanding of proper digital etiquette, personal security guidelines, use of network resources, and the district's acceptable use policy for technology; and
 6. identify and demonstrate positive personal qualities such as flexibility, open-mindedness, initiative, listening attentively to speakers, willingness to learn new knowledge and skills, and pride in quality work.
- Q. The student understands communications strategies as they relate to arts, audio/video technology, and communications. The student is expected to:**
1. adapt the language and design of a project for audience, purpose, situation, and intent;
 2. organize oral, written, and graphic information into formal and informal projects;
 3. interpret and communicate information for multiple audiences; and
 4. collaborate to create original projects, including seeking and responding to advice from others such as peers or experts in the creation and evaluation process.
- R. The student uses a variety of strategies to plan, obtain, evaluate, and use valid information. The student is expected to:**
1. obtain print and digital information such as graphics, audio, and video from a variety of resources while citing the sources;
 2. evaluate information for accuracy and validity; and
 3. present accurate information using techniques appropriate for the intended audience.
- S. The student applies technical skills for efficiency. The student is expected to:**
1. employ planning and time-management skills to complete work tasks; and
 2. use technology to enhance productivity.
- T. The student develops a basic understanding of arts, audio/video technology, and communications. The student is expected to:**
1. research the scope of career opportunities;



2. develop an understanding of the elements and principles of art;
3. develop an understanding of the industry by explaining the history and evolution of the arts, audio/video technology, and communications career fields and defining and using related terminology;
4. evaluate works of art using critical-thinking skills;
5. determine the use of art elements such as color, texture, form, line, and space; and
6. determine the use of principles of design such as continuity, pattern, rhythm, balance, proportion, and unity in products.

U. The student makes informed judgments about product designs and the designs of others. The student is expected to:

1. interpret, evaluate, and justify artistic decisions; and
2. select and analyze original product designs by peers and others to form precise conclusions about formal qualities and historical and cultural contexts, intents, and meanings.

V. The student develops technology skills. The student is expected to:

1. use technology as a tool to research, organize, evaluate, and communicate information.
2. use digital technologies (computers, PDAs, media players, GPSs, etc.), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy.
3. demonstrate utilizing current and new technologies specific to the program of study, course, and/or industry;
4. apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies.



Animation I

1. **General requirements.** This course is recommended for students in Grades 10-12. Prerequisite: Principles of Art, Audio/Video Technology, and Communications. Students shall be awarded one credit for successful completion of this course.
2. **Introduction.**
 - A. Career and technical education instruction provides students with industry-aligned content, challenging academic standards, and relevant technical knowledge to further their education and succeed in current or emerging professions.
 - B. The Arts, Audio/Video Technology, and Communications Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.
 - C. Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
 - D. Students will participate in at least two Career Awareness Work-Based Learning experiences in this course, which might include informational interviews or job shadowing relevant to the program of study.
 - E. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
3. **Knowledge and skills.**
 - A. **The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:**
 1. identify and participate in training, education, or certification for employment;
 2. identify and demonstrate positive work behaviors and personal qualities needed to be employable;
 3. demonstrate skills related to seeking and applying for employment;
 4. create a career portfolio to document information such as work experiences, licenses, certifications, and work samples;
 5. demonstrate skills in evaluating and comparing employment opportunities; and
 6. examine employment opportunities in entrepreneurship.
 - B. **The student applies academic knowledge and skills to animation projects. The student is expected to:**
 1. apply English language arts knowledge by demonstrating skills such as correct use of the content, technical concepts, vocabulary, grammar, punctuation, and terminology to write and edit a variety of documents; and
 2. apply mathematics knowledge and skills such as using whole numbers, decimals, fractions, and knowledge of arithmetic operations.



- C. **The student understands professional communications strategies. The student is expected to:**
1. adapt language for audience, purpose, situation, and intent;
 2. organize oral and written information;
 3. interpret and communicate information;
 4. deliver formal and informal presentations;
 5. apply active listening skills;
 6. listen to and speak with diverse individuals; and
 7. exhibit public relations skills.
- D. **The student understands and employs problem-solving methods and conflict-management skills. The student is expected to:**
1. employ critical-thinking skills independently and in groups; and
 2. employ interpersonal skills in groups to solve problems.
- E. **The student applies technology applications. The student is expected to use personal information management, email, Internet, writing and publishing, and presentation applications for animation projects.**
- F. **The student applies cyber safety procedures. The student is expected to implement personal and professional safety rules and regulations.**
- G. **The student applies leadership characteristics to student leadership and professional development activities. The student is expected to:**
1. demonstrate leadership skills independently and in a group setting;
 2. conduct and participate in groups; and
 3. model mentoring skills.
- H. **The student applies ethical decision-making and understands and complies with laws regarding use of technology in animation. The student is expected to:**
1. exhibit ethical conduct related to interacting with others, such as maintaining client confidentiality and privacy of sensitive content and giving proper credit for ideas;
 2. discuss and apply copyright laws;
 3. model respect of intellectual property;
 4. demonstrate proper etiquette and knowledge of acceptable use policies; and
 5. analyze the impact of the animation industry on society.
- I. **The student applies technical skills for efficiency. The student is expected to:**
1. employ planning and time-management skills to complete work tasks.
- J. **The student develops an understanding of animation technology. The student is expected to:**
1. demonstrate appropriate use of hardware components, software programs, and storage devices;
 2. demonstrate knowledge of sound editing;
 3. demonstrate knowledge of file formats and cross-platform compatibility; and
 4. acquire and exchange information in a variety of electronic file sharing formats.



- K. The student evaluates visual information. The student is expected to:**
1. recognize the use of principles and elements of design; and
 2. recognize the use of typography.
- L. The student uses an appropriate design process to create and modify solutions to problems. The student is expected to:**
1. combine graphics, images, and sound;
 2. apply principles of design;
 3. develop and reference technical documentation; and
 4. edit products.
- M. The student creates animation projects. The student is expected to:**
1. use a variety of techniques and software programs; and
 2. publish and deliver products using a variety of media.
- N. The student researches the history and evolution of animation. The student is expected to:**
1. explain the history of animation;
 2. describe how changing technology is affecting the industry;
 3. analyze the use of symbols in the animation of diverse cultures;
 4. compare current animation technologies with historical technologies;
 5. compare various styles of animation; and
 6. explore emerging and innovative animation technologies and software.
- O. The student understands and applies animation principles, elements, and techniques. The student is expected to:**
1. describe and use audience identification, scriptwriting, character design, storyboarding, and audio and delivery formats;
 2. describe and use cells, stop motion, tweening, motion paths, masking, looping, scripting/programming, and interactivity;
 3. describe lighting and camera shots;
 4. describe and use flipbooks, claymation, or cut-outs;
 5. render; and
 6. describe and use post-production processes such as editing and creating titles, credits, and special effects.
- P. The student presents oral or written evaluations of animation projects. The student is expected to:**
1. identify the intended audience;
 2. describe aesthetics;
 3. explain the storyline;
 4. summarize subject matter; and
 5. discuss the use of sound.



Q. The student develops technology skills. The student is expected to:

1. use technology as a tool to research, organize, evaluate, and communicate information;
2. use digital technologies (computers, PDAs, media players, GPSs, etc.); communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy;
3. demonstrate using current and new technologies specific to the program of study, course, and/or industry; and
4. apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies.



Animation II

1. **General requirements.** This course is recommended for students in Grades 11 and 12. Prerequisite: Animation I. Students shall be awarded one credit for successful completion of this course.
2. **Introduction.**
 - A. Career and technical education instruction provides students with industry-aligned content, challenging academic standards, and relevant technical knowledge to further their education and succeed in current or emerging professions.
 - B. The Arts, Audio/Video Technology, and Communications Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.
 - C. Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
 - D. Students will participate in a Career Preparation Work-Based Learning experience in this course, which might include paid or unpaid internship experiences relevant to the program of study.
 - E. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
3. **Knowledge and skills.**
 - A. **The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:**
 1. participate in training, education, or certification for employment;
 2. demonstrate positive work behaviors and personal qualities needed to be employable;
 3. demonstrate skills related to seeking and applying for employment to find and obtain a desired job, including identifying job opportunities, developing a resume and letter of application, completing a job application, and demonstrating effective interview skills; and
 4. maintain a career portfolio to document information such as work experiences, licenses, certifications, and work samples.
 - B. **The student applies academic knowledge and skills to animation projects. The student is expected to:**
 1. apply English language arts knowledge by demonstrating skills such as correct use of content, technical concepts, vocabulary, grammar, punctuation, and terminology to write and edit a variety of documents; and
 2. apply mathematics knowledge and skills such as using whole numbers, decimals, fractions, and knowledge of arithmetic operations.



- C. **The student applies professional communications strategies. The student is expected to:**
1. adapt language for audience, purpose, situation, and intent;
 2. organize oral and written information;
 3. interpret and communicate information;
 4. deliver formal and informal presentations;
 5. apply active listening skills;
 6. listen to and speak with diverse individuals; and
 7. exhibit public relations skills.
- D. **The student understands and employs problem-solving methods and conflict-management skills. The student is expected to:**
1. employ critical-thinking skills independently and in groups; and
 2. employ interpersonal skills in groups to solve problems.
- E. **The student applies technology applications. The student is expected to use personal information management, email, Internet, writing and publishing, and presentation applications for animation projects.**
- F. **The student understands animation systems. The student is expected to analyze and summarize the history and evolution of the animation field.**
- G. **The student applies cyber safety procedures. The student is expected to implement personal and professional safety rules and regulations.**
- H. **The student applies leadership characteristics to student leadership and professional development activities. The student is expected to:**
1. employ leadership skills to accomplish goals and objectives by analyzing the various roles of leaders within organizations, exhibiting problem-solving and management traits, describing effective leadership styles and participating in civic and community leadership and teamwork opportunities to enhance skills;
 2. establish and maintain effective working relationships by providing constructive praise and criticism, demonstrating sensitivity to and value for diversity, and managing stress and controlling emotions;
 3. prepare for meetings by developing goals and objectives to achieve within a scheduled time and producing agendas;
 4. conduct and participate in meetings to accomplish work tasks by achieving goals and objectives within a scheduled time, producing meeting minutes, including decisions and next steps; and using parliamentary procedures, as needed; and
 5. employ mentoring skills to inspire and teach others.
- I. **The student applies ethical decision-making and complies with laws regarding use of technology in animation. The student is expected to:**



1. exhibit ethical conduct;
 2. apply copyright laws;
 3. model respect for intellectual property; and
 4. demonstrate proper etiquette and knowledge of acceptable use policies.
- J. **The student applies advanced technical skills for efficiency. The student is expected to employ planning and time-management skills to complete work tasks.**
- K. **The student develops an advanced technical understanding of animation. The student is expected to:**
1. operate communication systems to prepare and conduct verbal and visual communication;
 2. use production elements such as transitions, edits, framing, angle, and lighting techniques;
 3. use orthographic and isometric drawing techniques; and,
 4. demonstrate familiarity with commercial production applications.
- L. **The student demonstrates animation principles and elements. The student is expected to:**
1. apply animation principles such as arcs, timing, and exaggeration; and
 2. identify animation elements such as cycles, layers, transitions, and transparency.
- M. **The student applies the elements and principles of art to animation projects. The student is expected to:**
1. identify animation design elements such as line, color, shape, and texture;
 2. explain the use of additive color theory; and
 3. compare various styles of animation.
- N. **The student applies pre-production processes. The student is expected to:**
1. analyze target audience to identify needs and wants;
 2. write and edit scripts;
 3. create storyboards; and
 4. select aspect ratio and frame rate appropriate to delivery method.
- O. **The student applies production processes. The student is expected to:**
1. design color and compositional elements;
 2. design characters, environments, and props;
 3. model characters, environments, and props;
 4. light sets or animating lights as needed;
 5. develop rigs for animating characters;
 6. assemble particle systems for visual effects such as rain, snow, and fire;
 7. animate characters, environments, or cameras;
 8. incorporate music and sound effects; and
 9. render scenes.
- P. **The student applies post-production processes. The student is expected to:**
1. edit;



2. produce titles and credits;
3. add visual effects and processing;
4. add audio effects and processing; and
5. produce output.

Q. The student develops technology skills. The student is expected to:

1. use technology as a tool to research, organize, evaluate, and communicate information.
2. use digital technologies (computers, PDAs, media players, GPSs, etc.), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy.
3. demonstrate utilizing current and new technologies specific to the program of study, course, and/or industry; and
4. apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies.



Practicum in Animation

1. **General requirements.** This course is recommended for students in Grades 12. The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Arts, A.V. Technology, and Communication Career Cluster. Prerequisite: Animation II. Students shall be awarded one credit for successful completion of this course.
2. **Introduction.**
 - A. Career and technical education instruction provides students with industry-aligned content, challenging academic standards, and relevant technical knowledge to further their education and succeed in current or emerging professions.
 - B. The Arts, Audio/Video Technology, and Communications Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.
 - C. Careers in animation span all aspects of the arts, audio/video technology, and communications industry. Building upon the concepts taught in Animation II, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
 - D. Students will participate in a Career Preparation Work-Based Learning experience in this course, which includes paid or unpaid internship, pre-apprenticeship, or apprenticeship experiences relevant to the program of study.
 - E. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.
3. **Knowledge and skills.**
 - A. **The student demonstrates professional standards/employability skills as required by business and industry.**
The student is expected to:
 1. participate in training, education, or certification for employment;
 2. demonstrate professional standards and personal qualities needed to be employable such as oral and written communication, leadership, teamwork, appreciation for diversity, conflict management, customer service, work ethic, and adaptability;
 3. demonstrate skills related to seeking and applying for employment; and
 4. create a resume and cover letter/letter of interest to document information such as work experiences, licenses, certifications, and work samples.



- B. The student applies academic knowledge and skills in production projects. The student is expected to:**
1. apply English language arts knowledge and skills by consistently demonstrating use of content, technical concepts, and vocabulary; using correct grammar, punctuation, and terminology to write and edit documents; and composing and editing copy for a variety of written documents such as scripts, captions, schedules, reports, manuals, proposals, and other client-based documents; and
 2. apply mathematics knowledge and skills in invoicing and time-based mathematics by consistently demonstrating knowledge of arithmetic operations and applying measurement to solve problems.
- C. The student implements advanced professional communications strategies. The student is expected to:**
1. adapt language such as structure and style for audience, purpose, situation, and intent;
 2. formulate, analyze, and organize oral and written information;
 3. formulate, analyze, interpret, and communicate information, data, and observations;
 4. create and deliver formal and informal presentations;
 5. apply active listening skills to obtain and clarify information;
 6. listen to and speak with diverse individuals; and
 7. exhibit public relations skills to increase internal and external customer/client satisfaction.
- D. The student implements advanced problem-solving methods. The student is expected to:**
1. employ critical-thinking skills, including data gathering and interpretation independently and in groups; and
 2. employ interpersonal skills in groups to solve problems and make decisions.
- E. The student implements advanced technology applications and processes. The student is expected to:**
1. use technology applications such as social media, email, Internet, writing and publishing, presentation, and spreadsheet or database applications for animation projects; and
 2. use processes such as personal information management, file management, and file sharing.
- F. The student implements advanced knowledge of the evolution and current trends of the animation industry. The student is expected to:**
1. summarize the history and evolution of the animation industry; and
 2. analyze the current trends of the animation industry.
- G. The student applies safety regulations. The student is expected to:**
1. consistently implement personal and workplace safety rules and regulations;
 2. recognize and resolve potential safety concerns; and
 3. follow emergency procedures.
- H. The student applies leadership characteristics to student organizations and professional development activities. The student is expected to:**
1. employ leadership skills to accomplish goals and objectives by analyzing the various roles of leaders within organizations, exhibiting problem-solving and management traits, describing effective leadership styles and participating in civic and community leadership and teamwork opportunities to enhance skills;
 2. employ teamwork and conflict-management skills to achieve collective goals;
 3. establish and maintain effective working relationships by providing constructive praise and criticism, demonstrating sensitivity to and value for diversity, and managing stress and controlling emotions;



4. prepare for meetings by developing goals and objectives to achieve within a scheduled time and producing agendas;
 5. conduct and participate in meetings to accomplish work tasks by achieving goals and objectives within a scheduled time; producing meeting minutes, including decisions and next steps; and using parliamentary procedures, as needed; and
 6. employ mentoring skills to inspire and teach others.
- I. **The student implements ethical decision-making and complies with laws regarding use of technology. The student is expected to:**
1. exhibit ethical conduct related to providing proper credit for ideas and privacy of sensitive content;
 2. discuss and apply copyright laws in relation to fair use and acquisition, trademark laws, and personal privacy laws and use digital information citing sources using established methods;
 3. model respect for intellectual property when manipulating, morphing, and editing graphics, video, text, and sound;
 4. demonstrate proper etiquette and knowledge of acceptable use policies when using networks, especially resources on the Internet and intranet; and
 5. analyze the impact of the animation industry on society.
- J. **The student demonstrates appropriate career-building characteristics and maintains a professional portfolio. The student is expected to:**
1. maintain a career portfolio to document information such as work experiences, licenses, certifications, and work samples;
 2. demonstrate skills in evaluating and comparing employment opportunities;
 3. examine and employ professional networking opportunities such as career and technical student organizations, professional social media, and industry professional organizations; and
 4. examine employment opportunities in entrepreneurship.
- K. **The student employs effective planning and time-management skills to enhance productivity. The student is expected to:**
1. employ effective planning and time-management skills to complete work tasks; and
 2. use technology to enhance productivity.
- L. **The student implements an advanced understanding of client-based production in all stages of production. The student is expected to:**
1. determine and meet client needs by conducting client meetings to identify specific project requirements and target demographics; and
 2. develop a production proposal for client approval that includes a production schedule, research-based production costs, and appropriate delivery and distribution options.
- M. **The student engages in pre-production activities for successful execution of the project. The student is expected to:**
1. identify cast, crew, equipment, and location requirements;
 2. develop a budget with considerations for cast, crew, equipment, and location;
 3. analyze the script and storyboard processes; and



4. assign team roles required for production.
- N. **The student engages in production activities for successful execution of the project. The student is expected to:**
1. conduct a client meeting for presenting production strategies and implement client feedback;
 2. implement a coherent sequence of production events;
 3. use necessary equipment and crew for quality productions;
 4. demonstrate teamwork and knowledge of interpersonal skills with sensitivity to diversity;
 5. demonstrate appropriate use of editing systems; and
 6. make decisions appropriate for each element of production.
- O. **The student engages in post-production activities for a successful output and distribution of the project. The student is expected to:**
1. make necessary adjustments regarding compatibility issues, including digital file formats and cross-platform connectivity;
 2. use various compression standards;
 3. research the appropriate delivery formats for the target audience;
 4. advise clients on optimal delivery options; and
 5. discuss distribution options with optimal project reach.
- P. **The student practices business skills for freelance entrepreneurs. The student is expected to:**
1. implement standard freelance entrepreneur self-promotion techniques;
 2. develop proposals and standard billing and collection practices;
 3. research freelance entrepreneur start-up practices; and
 4. use technology applications common to freelance entrepreneurs.
- Q. **The student develops an understanding of professional employment strategies through practical experience in the arts, audio/video technology, and communications career field. The student is expected to:**
1. identify types and requirements of potential employers;
 2. use professional etiquette and protocol in situations such as making introductions, speaking on the phone, communicating via electronic devices, offering and receiving criticism, and making follow-up communications; and
 3. exhibit appropriate grooming and attire.
- R. **The student develops an understanding of appropriate interview strategies in professional contexts. The student is expected to:**
1. employ appropriate verbal, nonverbal, and listening skills;
 2. use clear and appropriate communications to convey skill set to others;
 3. understand and apply federal laws regarding lawful employment interviews; and
 4. identify and use appropriate strategies for dealing with diverse individuals.
- S. **The student develops technology skills. The student is expected to:**
1. use technology as a tool to research, organize, evaluate, and communicate information.



2. use digital technologies (computers, PDAs, media players, GPSs, etc.), communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge economy.
3. demonstrate utilizing current and new technologies specific to the program of study, course, and/or industry; and
4. apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies.