

FOUNDATIONS OF ANIMATION

ACTIVITY / COURSE CODE: 5350

COURSE DESCRIPTION: Foundations of Animation prepares students to use artistic and technological foundations to create animations. The basic principles of digital animation are reviewed, including character development and story conception through production. Students learn the technical language used in the animation industry and basic animation methods. They will also learn techniques about various ways to plan, create, and prepare for animation in pre-production, production and post-production.

This course prepares students for the Adobe Certified Associate for Flash/Animate CC certification exam.

OBJECTIVE: Given the necessary equipment, supplies, and facilities, the student will complete all of the following core standards successfully.

RECOMMENDED GRADE LEVELS:	10 - 12
COURSE CREDIT:	One Carnegie unit (120 hours)
PREREQUISITE:	High School Computer Science Course
COMPUTER REQUIREMENT:	One computer per student; Internet access
RECOMMENDED SOFTWARE:	See Additional Materials and Resources
RESOURCES:	Instructional Materials

Note: INDUSTRY CREDENTIALS/CERTIFICATIONS AVAILABLE

A. HISTORY AND EVOLUTION OF ANIMATION

Animation professionals demonstrate knowledge of the history and evolution of animation and its impact on society. The following accountability criteria are considered essential for students in Information Technology.

1. Explore the history and evolution of animation from inception to the present day.
2. Identify the 12 principles of animation (e.g., squash and stretch, anticipation, exaggeration, slow in and slow out).
3. Compare current animation technologies with historical technologies.
4. Identify emerging and innovative animation technologies and software.
5. Describe the importance of animation's influence on society.

B. PRE-PRODUCTION: CONCEPT AND DESIGN

Animation professionals demonstrate effective concept and design strategies, including a demonstration of an awareness and sensitivity for cultural diversity. The following accountability criteria are considered essential for students in Information Technology.

1. Practice brainstorming and ideation to develop a concept.
2. Research design concepts.
3. Apply the 5 W's (who, what, when, where, why) to explore concepts and ideas.
4. Identify the purpose, target audience, and audience needs for media content.
5. Incorporate cultural sensitivity and diversity awareness into the design process.
6. Develop an appropriate design process/workflow.

C. PRE-PRODUCTION: STORYTELLING AND STORYBOARDING

Animation professionals set the foundations for an animation and demonstrate the process of planning and preparing for production of an animation. The following accountability criteria are considered essential for students in Information Technology.

1. Write visually descriptive stories which include some or all the following: scene descriptions, characters movements, action sequences, dialogue, sound effects or audio.
2. Order and connect ideas into a coherent narrative or sequence to develop a script that demonstrates continuity.
3. Demonstrate how principles of animation can be applied to characters and objects.
4. Establish the visual style of the story and identify how the characters interact with the backgrounds.
5. Create a character profile and backstory to give character purpose.
6. Design the characters considering appearance, distinguishing features, proportions, clothing, body parts, expressions etc.
7. Design the backgrounds, set & props.
8. Visually communicate concepts/ideas or key shifts in the narrative of the script (story beats) utilizing a storyboard.
9. Create an animatic of the storyboard.

D. PRODUCTION: TRADITIONAL ANIMATION

Animation professionals demonstrate traditional animation skills. The following accountability criteria are considered essential for students in Information Technology.

1. Create a series of stick figures in a variety of poses, actions, and sequences.
2. Create a background using non-digital, traditional methods.
3. Illustrate actions with sequential panels (e.g., frames, develop a flipbook, use claymation).
4. Navigate the camera / viewpoint to develop frame by frame animation.

E. PRODUCTION: DIGITAL ANIMATION WORKSPACE

Animation professionals demonstrate appropriate knowledge and usage of various animation software. The following accountability criteria are considered essential for students in Information Technology.

1. Explore and identify output formats for different types of animations.
2. Identify the appropriate document type needed for desired playback environment (e.g., play in browser, animated GIF, mobile app, VR experience).
3. Identify the function of the elements of the animation software interface (e.g., Tools, Property Inspector, Timeline, document properties, guides and rulers, Motion Editor).
4. Identify the functions of commonly used drawing and animation tools.
5. Navigate, organize, and customize the workspace.
6. Demonstrate knowledge and appropriate use of typography (i.e. text, text tools, and visual design layout).
7. Demonstrate knowledge and use of passing stages and layers.
8. Demonstrate knowledge and use of the library panel.

F. PRODUCTION - DIGITAL ANIMATION DEVELOPMENT

Animation professionals demonstrate appropriate animation development skills. The following accountability criteria are considered essential for students in Information Technology.

1. Create, import, modify, and manipulate objects, graphics, video and text using a variety of tools and techniques.
2. Create and edit graphic symbols and instances.
3. Create rough sketches and clean up drawings.
4. Apply various animation techniques (i.e., frame-by-frame, tweening, ease).
5. Create and modify keyframes and key poses.
6. Apply the principles of animation to characters, objects and scenes.
7. Change an object's state or position over time.
8. Modify frame rate and speed.
9. Demonstrate an object following a path.
10. Simulate natural or mechanical movement (i.e. walking).
11. Create an armature.
12. Add light effects such as masks, drop shadow, glow.
13. Import and use sound.
14. Review animations to identify problems and make revisions based on feedback (e.g., timing, spacing, lighting).

G. PRODUCTION: ADVANCED ANIMATION AND SCRIPTING

Animation professionals demonstrate using a scripting language (e.g., ActionScript) to create complex animation and interactivity. The following accountability criteria are considered essential for students in Information Technology.

1. Explore scripting languages and how they create interactive media.
2. Add simple controls utilizing industry scripting language.
3. Create and animate interactive symbols (movie clips and buttons).
4. Demonstrate navigation techniques using a scripting language.
5. Use scripting language to integrate sound with animation.

H. POST-PRODUCTION

Animation professionals demonstrate appropriate post-production skills. The following accountability criteria are considered essential for students in Information Technology.

1. Identify best practices for managing file size and file types.
2. Apply final touches to an animation in a video editing software to refine it, including sound design, editing, color grading, visual effects.
3. Select appropriate distribution format.
4. Publish and export animations.
5. Conduct basic technical and usability tests.
6. Conduct peer and self-evaluations using rubrics.

I. PORTFOLIO AND CAREER DEVELOPMENT

Animation professionals demonstrate appropriate portfolio and career development skills. The following accountability criteria are considered essential for students in Information Technology.

1. Develop, maintain, and update portfolios.
2. Prepare and deliver a visual presentation utilizing appropriate industry terminology.
3. Understand the elements of the critique process, including a respect for peer work and the ability to give and receive dispassionate criticism.
4. Research and present careers related to the animation industry.
5. Obtain an industry-recognized certification.

Safety, Student Organizations, Technology Knowledge, Personal Qualities and Skills, and Professional Knowledge are to be embedded in course standards A-L.

SAFETY

Professionals know the academic subject matter, including safety as required for proficiency within their area. The following accountability criteria are considered essential for students in any program of study.

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

STUDENT ORGANIZATIONS

Professionals know the academic subject matter, including professional development, required for proficiency within their area. The following accountability criteria are considered essential for students in any program of study.

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

TECHNOLOGY KNOWLEDGE

Professionals know the academic subject matter, including the ethical use of technology. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; cyberbullying; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

Professionals know the academic subject matter, including positive work practices and interpersonal skills. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate creativity and innovation.
2. Demonstrate critical thinking and problem-solving skills.
3. Demonstrate initiative and self-direction.
4. Demonstrate integrity.
5. Demonstrate work ethic.
6. Demonstrate conflict resolution skills.
7. Demonstrate listening and speaking skills.
8. Demonstrate respect for diversity.
9. Demonstrate customer service orientation.
10. Demonstrate teamwork.

PROFESSIONAL KNOWLEDGE

Professionals know the academic subject matter, including positive work practices and interpersonal skills. The following accountability criteria are considered essential for students in any program of study.

1. Demonstrate global or “big picture” thinking.
2. Demonstrate career and life management skills and goal-making.
3. Demonstrate continuous learning and adaptability skills to changing job requirements.
4. Demonstrate time and resource management skills.
5. Demonstrates information literacy skills.
6. Demonstrates information security skills.
7. Demonstrates information technology skills.
8. Demonstrates knowledge and use of job-specific tools and technologies.
9. Demonstrate job-specific mathematics skills.
10. Demonstrates professionalism in the workplace.
11. Demonstrate reading and writing skills.
12. Demonstrates workplace safety.

The Additional Course Materials and Resources and academic alignment are found in the Instruction Hub.