	ANIMATION, 10.0200.60
1.0	**ANALYZE THE MEDIA INDUSTRY, ITS BUSINESS PRACTICES, AND ITS ROLE IN THE ECONOMY**
1.1	Research the role of the media industry and its impact on society and the economy
1.2	Investigate the history and evolution of media and emerging technology
1.3	Identify factors that contribute to the success of media businesses and freelance/contract providers
1.4	Examine the impact of social media on the media industry
1.5	Identify key factors to be considered in launching a media business
1.6	Examine how the relationship among marketing, sales, and production affects profitability
1.7	Describe how production processes and cycles affect media businesses
1.8	Determine costing projections for various media objectives and/or functions
1.9	Describe how diversity (cultural, ethnic, multigenerational) and ethics affect the selection of projects and programs
1.10	Describe how ethics, hype, and content influence media products
1.11	Identify industry safety standards
1.12	Describe multiple distribution platforms that are in compliance with the American Disability Act
2.0	**INVESTIGATE INTELLECTUAL PROPERTY LAW AND RIGHTS MANAGEMENT**
2.1	Identify current legal issues in media professions
2.2	Explain plagiarism and its effects in business
2.3	Define the establishment of a copyright
2.4	Discuss rights and implications of copyright law
2.5	Examine intellectual property law and its ramifications
2.6	Explain the establishment of a trade name and trademark
2.7	Explain fair use in relation to legal and regulatory considerations

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3.0	**DEMONSTRATE VERBAL AND NONVERBAL COMMUNICATION SKILLS REQUIRED BY THE MEDIA INDUSTRY**
3.1	Use industry terminology appropriately in the work environment
3.2	Use effective communication techniques to obtain accurate information from sources, audiences, and clients
3.3	Practice verbal and nonverbal communication skills with people of diverse cultures, generations, and situations
3.4	Practice active listening skills appropriate to the medium/media
4.0	**DEMONSTRATE WRITTEN COMMUNICATION SKILLS REQUIRED BY THE MEDIA INDUSTRY**
4.1	Use professional etiquette for web-, email-, and social-media-based communications
4.2	Conduct formal and informal research to collect information
4.3	Verify the accuracy of information
4.4	Verify the authority of sources
4.5	Identify the purpose, content, and audience for communications
4.6	Select the appropriate medium/media for distribution of communications
4.7	Format communications for the purpose, audience, and medium/media
4.8	Use editing skills when reviewing communications
4.9	Use proofing skills and check the spelling when reviewing communications
5.0	**UTILIZE COMPUTER APPLICATIONS TO MANAGE MEDIA**
5.1	Use appropriate electronic publishing software and output devices
5.2	Apply essential commands and knowledge of computer operating systems
5.3	Apply computer file management techniques
5.4	Use the Internet for file transfer
5.5	Select the format for digital delivery
5.6	Use and care for equipment and related accessories

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5.7	Describe the functionality of the internet, intranet, and extranet in the media environment
5.8	Explain methods of protecting a computer against computer threats
6.0	**APPLY KNOWLEDGE OF DATA CAPTURE AND MANIPULATION**
6.1	Identify software that supports data capture for media devices (i.e., digital camera, video input device, graphics tablet, graphics expansion boards)
6.2	Select appropriate resolutions for data capture
6.3	Capture and transfer still image, audio, and moving image content
7.0	**ENGAGE IN PRE-PRODUCTION/PLANNING PHASE OF PRODUCT CREATION IN ANIMATION**
7.1	Apply drawing skills (i.e., shading, perspective, and gesture drawing)
7.2	Apply the elements and principles of design to all sketches, drawings, and projects
7.3	Use the rule of thirds to create visually pleasing composition
7.4	Apply basic anatomy to figure drawing and character design
7.5	Create detailed concept art illustrating content ideas for a project
7.6	Create detailed comprehensive storyboards for a project
7.7	Explain the purpose of creating image representation (thumbnails and/or silhouette sketches) for each project
7.8	Explain the purpose of creating an animatic for a project
8.0	**IMPLEMENT PLAN(S) FOR ACQUIRING OR CREATING A PRODUCT IN ACCORDANCE WITH PRODUCTION PHASE TASKS IN ANIMATION**
8.1	Apply the principles of animation to all animated projects
8.2	Explain the animation pipeline and its stages
8.3	Create a folder hierarchy and organize project files within folders using consistent naming conventions (e.g., naming layers in Photoshop and naming objects in a 3D program)
8.4	Use mathematical calculations to determine frame rates (e.g., animation, film, and video)
8.5	Apply an understanding of 3D image creation in terms of modeling (e.g., polygons, NURBS/hyper-nurbs, subdivision surfaces)
8.6	Differentiate among types of surface shaders

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8.7	Create procedural textures utilizing map channels and Paint/photo reference textures in Photoshop
8.8	Map textures on polygon objects using planar, cylindrical, spherical mapping, and the UV texture editor
8.9	Differentiate among types of lights and their attributes
8.10	Explain the three lights in the three-point lighting system
8.11	Use white and colored lights and shadows to create mood in a scene
8.12	Use graph editor/curve editor software to manipulate keyframe interpolation
8.13	Create animation using motion paths
8.14	Create SDKs/action constraints
8.15	Explain the basics of and uses for FK/IK (forward kinematics and inverse kinematics)
8.16	Identify and explain camera angles and moves; use a camera to capture an image from a 3D scene utilizing positioning and focal length to make a nice composition
8.17	Identify rendering systems and explain their use; render still images in various sizes, qualities, and file types
8.18	Explain gates and safe frames and their uses
8.19	Render an animated sequence
8.20	Use ray tracing to create reflections
8.21	Use dynamic systems to simulate fire, fluid, and smoke
9.0	**PERFORM TASKS IN POST-PRODUCTION PHASE OF PRODUCT REFINEMENT IN ANIMATION**
9.1	Animate layers of footage in a compositing program
9.2	Use and animate compositing effects
9.3	Use masks, track mattes, and keying techniques
9.4	Track motion and apply the data to footage
9.5	Combine a sound file and an image sequence into one movie file

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10.0	**DELIVER/DISTRIBUTE PRODUCT(S) USING VARIOUS MEDIA IN ACCORDANCE WITH CONSUMER EXPECTATIONS IN ANIMATION**
10.1	Identify various file formats, their advantages and disadvantages
10.2	Select video or audio codecs for various formats [hard-drives, CDs, DVDs, blu ray, and the Internet (streaming and gaming engines)]
10.3	Explore the Internet as a delivery system and the use of security parameters (e.g., Vimeo or YouTube as a video-sharing tool for distribution)
11.0	**MONITOR QUALITY ASSURANCE OF PRODUCT CREATION CONCURRENT WITH ALL PHASES OF PRODUCTION IN ANIMATION**
11.1	Critique an animation project for craftsmanship, content, and tone
11.2	Review a project workflow after completion and determine areas for improvement
11.3	Identify factors, including personal trait, that contribute to the success of small production houses for animation, film, and audio
12.0	**PRESENT PRODUCT(S) TO SELECTED AUDIENCE(S) USING ANIMATION**
12.1	Structure and develop a demo reel of an appropriate length
12.2	Explore methods of distributing portfolios and demo reels for the purpose of work and employment
12.3	Research a company as a potential employee and develop a cover letter
12.4	Explore interviewing techniques for professional placement