Media Production

Study Guide

Assessments:

0601 Editor
0602 Motion Graphics Artist
0603 Production Assistant
0604 Producer
0605 3D Modeler
0606 3D Animator

Endorsed by Producers
Playhouse

PRODUCERS

PLAYHOUSE

Endorsed by Digital Tutors

digital-tutors®
Teaching the people who make movies and games.

careertech ✓
Testing
The Provider of Online Testing Solutions

OKLAHOMA
WORKS

Overview

This study guide is designed to help students prepare for the Media Production assessments. It not only includes information about the assessments, but also the skills standards upon which the assessments are based and test taking strategies.

Each of the four sections in this guide provides useful information for students preparing for the Media Production assessments.

- CareerTech and Competency-Based Education: A Winning Combination
- Media Production assessments
  - ▶ Assessment Information
  - ▶ Standards and Test Content
  - ▶ Sample Questions
  - ▶ Abbreviations, Symbols and Acronyms
- Strategies for Test Taking Success
- Notes

These assessments measure a student's ability to apply knowledge of the skills necessary for success in the Media Production sector.

The Editor, Production Assistant, and Producer assessments are endorsed by Producers Playhouse, a full service video production company located in Oklahoma City, Oklahoma. Producers Playhouse services include writing, producing, production coordinating, studio rental, studio and remote production, editing and delivery of all sorts of projects.

Producers Playhouse: **www.producersplayhouse.com**

The Motion Graphics Artist, 3D Modeler, and 3D Animator assessments are endorsed by Digital Tutors. Since 2000, Digital-Tutors have been a dedicated team of artists, professionals, representatives and problem-solvers who are truly passionate about teaching the people around the globe who make movies and games. They work hand-in-hand with the best in the business and keep them in-the-know on the latest tools, tips and techniques.

Digital Tutors: **www.digitaltutors.com**

CareerTech and Competency-Based Education:
A Winning Combination

Competency-based education uses learning outcomes that emphasize both the application and creation of knowledge and the mastery of skills critical for success. In a competency-based education system, students advance upon mastery of competencies, which are measurable, transferable outcomes that empower students.

Career and technology education uses industry professionals and certification standards to identify the knowledge and skills needed to master an occupation. This input provides the foundation for development of curriculum, assessments and other instructional materials needed to prepare students for wealth-generating occupations and produce comprehensively trained, highly skilled employees demanded by the work force.

Tools for Success

CareerTech education relies on three basic instructional components to deliver competency-based instruction: skills standards, curriculum materials, and competency assessments.

Skills standards provide the foundation for competency-based instruction and outline the knowledge and skills that must be mastered in order to perform related jobs within an industry. Skills standards are aligned with national skills standards and/or industry certification requirements; therefore, a student trained to the skills standards is equally employable in local, state and national job markets.

Curriculum materials and textbooks contain information and activities that teach students the knowledge and skills outlined in the skills standards. In addition to complementing classroom instruction, curriculum resources include supplemental activities that enhance learning by providing opportunities to apply knowledge and demonstrate skills.

Certification Assessments test the student over material outlined in the skills standards and taught using the curriculum materials and textbooks. When used with classroom performance evaluations, certification assessments provide a means of measuring occupational readiness.

Each of these components satisfies a unique purpose in competency-based education and reinforces the knowledge and skills students need to gain employment and succeed on the job.

Measuring Success

Evaluation is an important component of competency-based education. Pre-training assessments measure the student's existing knowledge prior to receiving instruction and ensure the student's training builds upon this knowledge base. Formative assessments administered throughout the training process provide a means of continuously monitoring the student's progress towards mastery.

Certification assessments provide a means of evaluating the student's mastery of knowledge and skills. Coaching reports communicate assessment scores to students and provide a breakdown of assessment results by standard area. The coaching report also shows how well the student has mastered skills needed to perform major job functions and identifies areas of job responsibility that may require additional instruction and/or training.

Media Production
Assessment Information

What are the Media Production assessments?

The Editor, Motion Graphics Artist, Production Assistant, Producer, 3D Modeler, and 3D Animator assessments are end-of-program assessments for students in Media Production programs. The assessments provide an indication of student mastery of knowledge and concepts necessary for success in careers in these areas.

How were the assessments developed?

The assessments were developed by the CareerTech Testing Center. The Editor, Production Assistant, and Producer assessments and standards are endorsed by Producers Playhouse and the Motion Graphics Artist, 3D Modeler, and 3D Animator assessments and standards are endorsed by Digital Tutors. Items were developed and reviewed by a committee of subject matter experts.

> **Frequency:** represents how often the task is performed on the job. Frequency rating scales vary for different occupations. The rating scale used in this publication is presented below:
>
> 1 = less than once a week   2 = at least once a week   3 = once or more a day
>
> **Criticality:** denotes the level of consequence associated with performing a task incorrectly. The rating scale used in this publication is presented below:
>
> 1 = slight   2 = moderate   3 = extreme

What do the assessments cover?

Specifically, the tests include multiple-choice test items over the following areas:

Editor (55 questions)

Planning	5%
Manage	9%
Ethics	17%
Editing	42%
Sound	5%
Titles, Graphics, and Special Effects	15%
Evaluation	7%

Motion Graphics Artist (55 questions)

Planning	15%
Manage	5%
Ethics	5%
Sound	4%
Production Standards	20%
Motion Graphics Techniques	29%
Effects	11%
Rendering	9%
Evaluation	2%

Production Assistant (55 questions)

Planning	36%
Ethics	5%
Sound	15%
Lighting and Sets	13%
Acquiring Stills and Video	20%
Production Equipment	5%
Evaluation	2%
Production Assisting	4%

Producer (55 questions)

Planning	38%
Manage	7%
Ethics	22%
Editing	15%
Sound	6%
Titles and Graphics	3%
Evaluation	9%

3D Modeler (55 questions)

Planning	15%
Managing	11%
Ethics	4%
Production Standards	9%
Modeling Techniques	32%
Modifiers	5%
Surface Texture Techniques	16%
Scene Composition	2%
Sculpting	4%
Evaluation	2%

3D Animator (55 questions)

Planning	9%
Managing	11%
Ethics	7%
Rigging	21%
Camera Orientation	7%
Animation Techniques	23%
Motion Capture	4%
Animation Fundamentals	11%
Dynamics and Special Effects	5%
Evaluation	2%

What are the benefits of using these assessments?

Students receive a certificate for each assessment that he/she passes. This certificate may be included in his/her portfolio and used to communicate the student's mastery of the subject matter to potential employers.

When should assessments be taken?

The CareerTech Testing Center recommends that students take assessments as soon as possible after receiving all standards-related instruction, rather than waiting until the end of the school year.

Is the assessment timed?

No. However, most students finish the assessment within one hour.

What resources can students use on these assessments?

Students are allowed to use calculators and scratch paper on CTTC assessments; however, these items must be provided by the testing proctor and returned to the proctor before the student's exam is submitted for scoring. Calculator apps on cell phones and other devices may not be used on these assessments.

What accommodations can be made for students with Individualized Education Plans (IEPs)?

Accommodations are allowed for students with an Individualized Education Plan. Examples of allowable accommodations include:

- Extended time — This assessment is not timed; therefore, students may take as much time as needed to finish. The assessment must be completed in one testing session.

- Readers — A reader may be used to read the assessment to a student who has been identified as needing this accommodation.

- Enlarged text — Students needing this accommodation can activate this feature by clicking the AA icon in the upper right corner of the screen.

What can students expect on Test Day?

All CTTC assessments are web-based and delivered exclusively by a proctor in the school's assessment center. The proctor **cannot** be an instructor or anyone who was involved with the students during instruction.

Assessments are delivered in a question-by-question format. When a question is presented, the student can select a response or leave the question unanswered and advance to the next question. Students may also flag questions to revisit before the test is scored. All questions must be answered before the test can be submitted for scoring.

After the assessment is scored, the student will receive a score report that not only shows the student's score on the assessment, but also how the student performed in each standard area.

Can students retake the test?

Students may retake the test unless their school or state testing policies prohibit retesting. Students who can retest must wait at least three days between test attempts.

Standards and Test Content
Editor

Planning (3 questions)

1. Study scripts to become familiar with production concepts and requirements **(1/2)**
2. Confer with production team concerning layout or editing approaches needed to increase dramatic or entertainment value of productions **(2/2)**

Manage (5 questions)

1. Gather and digitize content **(3/3)**
2. Use time management to produce video according to production schedule **(3/3)**

Ethics (9 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(3/3)**
2. Demonstrate knowledge of copyright and intellectual property protection issues **(3/3)**
3. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

Editing (23 questions)

1. Differentiate between analog and digital video editing **(1/2)**
2. Understand the options for video capture **(1/3)**
3. Select the most effective shots of each scene **(3/3)**
4. Time and arrange video and audio clips on program timeline to form a logical and smoothly running story **(3/3)**
5. Demonstrate knowledge of analog video standards; NTSC, PAL, SECAM **(1/1)**
6. Understand aspect ratio or scaling image as necessary **(1/3)**
7. Utilize the transitions between scenes to enhance the video **(3/3)**
8. Utilize effects to selected scenes to create interest and flow **(1/3)**
9. Add audio and video and adjust mix **(3/3)**

10. Identify appropriate distribution format **(1/3)**
    - HDVD-H.264
    - Video compression
        ‣ Windows Media
        ‣ Quick Time
    - CD ROM
    - DVD

Sound (3 questions)

1. Record needed sounds, or obtain them from sound effects libraries **(1/1)**
2. Demonstrate general knowledge of sound formats **(1/1)**
3. Apply effects to audio track(s) to enhance the overall impact of the project **(1/1)**

Titles, Graphics, and Special Effects (8 questions)

1. Understand safe areas **(3/3)**
    - Title safe
    - Action safe
2. Demonstrate and understand lower thirds **(3/3)**
3. Create or prepare graphic **(2/3)**
4. Understand key framing or layering **(2/3)**
    - Mats
    - Chroma key
    - Stabilization

Evaluation (4 questions)

1. Review edited video to determine if corrections are necessary **(2/3)**
2. Critique and analyze completed video to determine if it accomplishes the objectives for the project **(1/3)**

Standards and Test Content
Motion Graphics Artist

Planning (8 questions)

1. Study scripts to become familiar with production concepts and requirements **(1/1)**

2. Confer with production team concerning layout or graphics needed to increase dramatic or entertainment value of productions **(2/2)**

3. Create/Approve storyboard **(3/3)**

4. Demonstrate knowledge of planning considerations: **(2/3)**

   - Target audience
   - Content / Tone of message
   - Availability of hardware
   - Selection of appropriate graphics software
   - Build prototype (pre-visualization)
   - Delivery mode
   - Set schedule
   - Obtaining media
   - Selection of format

5. Exhibit knowledge of the critical elements in designing a production in the stages of pre-production, production, and postproduction **(2/3)**

   - Identify the appropriate graphics tools needed to complete production
   - Identify the linkage from each stage to the next in processes and activities
   - Design a concept, a short script, and identify the resources needed to begin the production

Manage (3 questions)

1. Gather logos, graphics, and text **(1/3)**

2. Use time management to produce graphics according to production schedule **(1/1)**

3. Understand the role and conform to the appropriate naming schemes/conventions **(3/3)**

Ethics (3 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(1/1)**

2. Demonstrate knowledge of copyright and intellectual property protection issues **(3/3)**

3. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

Sound (2 questions)

1. Demonstrate general knowledge of sound formats **(1/1)**

2. Ensure audio and graphics are synchronized **(3/3)**

Production Standards (11 questions)

1. Determine media format and delivery output **(1/3)**

   - PAL
   - DVD
   - NTSC
   - H.264 Standards or iOS Segmentation
   - HD
   - EXR
   - FLV
   - Web Delivery

2. Determine the difference between: **(2/2)**

   - Fields / Interlace
   - Progressive scan

3. Demonstrate knowledge of television delivery **(3/3)**

   - Action safe area
   - Broadcast safe colors
   - Title safe area

4. Identify the differences between file formats **(2/2)**

   - TGA
   - TIFF
   - MOV
   - AVI
   - AI
   - EPS
   - JPEG
   - GIF
   - PNG
   - PSD
   - AIFF
   - WAV
   - MPEG
   - MP3
   - EXR
   - FLV
   - Web Delivery

5. Understand bitrates and compression **(3/3)**

Motion Design Techniques (16 questions)

1. Apply color theory to broadcast graphics **(2/2)**
   - Complimentary colors
   - Acknowledge cultural differences and interpretation
   - Color as it relates to emotion

2. Demonstrate intermediate knowledge of typograph: **(3/3)**

   - Typeface

3. Apply layout and animation according to storyboards **(1/3)**

4. Creating and manipulating keyframes **(3/3)**

   - Establishing keyframes
   - Moving keyframes
   - Deleting keyframes
   - Slopes of keyframes
   - Ease of keyframes

5. Understand layering to achieve depth **(2/2)**

   - Background
   - Midground
   - Foreground

6. Understand blend modes, alpha channels, and masks **(2/2)**

   - Add
   - Difference
   - Multiply
   - Screen

7. Understand the 12 principles of animation and how it relates to motion graphics **(2/2)**

8. Understand channels and their applications **(1/2)**

   - Alpha
   - RGB
   - Z Depth
   - Material ID pass

9. Understanding masks and mattes (creation, modification, manipulation) and their applications **(2/1)**

10. Understand motion blur **(2/2)**

11. Understand how to composite multi-layer images **(2/2)**

    - Ambient
    - Depth
    - Diffuse
    - Occlusion
    - Reflection
    - Shadow
    - Specular
    - Normal
    - Motion Vector

Effects (6 questions)

1. Demonstrate working knowledge of color correction: **(3/3)**

   - Primary:
     ‣ Channel mixer
     ‣ Hue saturation
     ‣ Levels

   - Secondary:
     ‣ Color balancing
     ‣ Color manipulation

2. Demonstrate knowledge of modification effects **(3/3)**

3. Demonstrate working knowledge of keying **(3/3)**

   - Chroma key
   - Luma key
   - Spill suppression

Rendering (5 questions)

1. Understand render settings **(2/3)**

2. Identify appropriate rendered format **(1/3)**

   - AVI
   - FLV
   - MOV
   - MPEG

Evaluation (1 question)

1. Critique and analyze completed video to determine if it accomplishes the objectives for the project **(1/2)**

Standards and Test Content
Production Assistant

Planning (20 questions)

1. Become familiar with production concepts and requirements **(3/3)**

2. Confer with production team concerning approaches needed to increase dramatic or entertainment value of productions **(3/3)**

3. Create/Approve storyboard **(2/3)**

4. Exhibit knowledge of the critical elements in designing a production in the stages of pre-production, production, and postproduction **(2/3)**

   • Identify the activities associated with pre-production, production, and postproduction
   • Identify the linkage from each stage to the next in processes and activities
   • Design a concept, a short script, and identify the resources needed to begin the production

5. Demonstrate knowledge of planning considerations: **(1/3)**

   • Target audience
   • Content
   • Availability of hardware
   • Selection of software
   • Selection of format
   • Delivery mode
   • Set schedule
   • Obtaining media
   • Field testing
   • Evaluate budgetary constraints

6. Understands secure settings, properties, effects, and other production necessities **(1/2)**

7. Observe sets or locations for potential problems and to determine filming and lighting requirements **(1/1)**

Ethics (3 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(3/3)**

2. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

3. Investigate how the First Amendment, Freedom of Information Act, libel, slander, and copyright laws affect video production **(1/1)**

   • Describe copyright laws related to the use of text, images, and recorded, Internet, and oral materials
   • Describe issues related to libel and slander

Sound (8 questions)

1. Exhibit knowledge of audio formats **(1/2)**
2. Exhibit knowledge of the types of microphones, pick up patterns and techniques required for a variety of audio presentations **(3/3)**
   - Types of microphones
     ‣ Dynamic or condenser
   - Pickup patterns or directional response
     ‣ Omni, cardioid, and directional
   - Describe the techniques to maximize sound performance
3. Record speech, music, and other sounds with camcorder or microphone **(3/3)**
4. Regulate volume level and sound quality during recording sessions **(3/3)**

Lighting and Sets (7 questions)

1. Apply knowledge of lighting requirements for a planned production **23/3)**
   - Identify types and placement of lighting fixtures for various lighting effects
     ‣ On camera lighting   ‣ Ambient lighting
     ‣ 3-point lighting
   - Demonstrate lighting techniques used for portable and studio productions
2. Position properties, sets, lighting equipment, and other equipment **(3/3)**
3. Understand importance of facial makeup, wardrobe, and background **(2/2)**

Acquiring Stills and Video (11 questions)

1. Exhibit knowledge of photo imaging using cameras and camcorders **(2/2)**
2. Identify the different media formats used by analog and digital camcorders **(1/1)**
   - Film   - Video
3. Demonstrate use of a tripod **(3/3)**
4. Set up, test, and adjust recording equipment for recording sessions; tear down equipment after event completion **(3/3)**
5. Demonstrate camera operations **(3/3)**
   - Describe how to maintain picture composition (Rule of Thirds, balance, etc.)
   - Demonstrate focusing and adjusting images, performing pans and zooms
   - Switch camera angles in a scene to add interest
6. Demonstrate knowledge of labeling and organization of digital media **(3/3)**

Production Equipment (3 questions)

1. Perform routine cleaning of audio and video equipment **(3/3)**
2. Notify production team when equipment repairs are needed **(1/3)**
3. Demonstrate knowledge of positions and controls of cameras and related equipment in order to change focus, exposure, and lighting **(1/2)**

Evaluation (1 question)

1. Exhibit knowledge of the critical elements in designing a production in the stages of pre-production, production, and postproduction **(3/3)**

Production Assisting (2 questions)

1. Identify production team members and roles **(1/3)**
2. Demonstrate knowledge of the overall structure of the project **(2/2)**

Standards and Test Content
Producer

Planning (21 questions)

1. Become familiar with production concepts and requirements **(3/3)**
2. Identify production team members and roles **(1/3)**
3. Confer with production team concerning approaches needed to increase dramatic or entertainment value of productions **(3/3)**
4. Create/Approve storyboard **(2/3)**
5. Demonstrate knowledge of planning considerations **(3/3)**

   - Target audience
   - Selection of format
   - Call sheets
   - Availability of personnel
   - Availability of hardware
   - Selection of software
   - Content
   - Delivery mode
   - Set schedule
   - Obtaining media
   - Field testing
   - Evaluate budgetary constraints

6. Exhibit knowledge of the critical elements in designing a production in the stages of pre-production, production, and postproduction **(3/3)**

   - Identify the activities associated with pre-production, production, and postproduction
   - Identify the linkage from each stage to the next in processes and activities
   - Design a concept, a short script, and identify the resources needed to begin the production

7. Demonstrate knowledge of how to structure the overall project **(2/2)**

   - Establish communications objective, considering audience
   - Outline content
   - Conceptualize style and format
   - Develop storyboard
   - Create and check continuity
   - Compile needed media elements

8. Locate and secure settings, properties, effects, and other production necessities **(1/3)**
9. Observe sets or locations for potential problems and to determine filming and lighting **(1/1)**

Manage (4 questions)

1. Coordinate the work of the team to assemble or capture still images, audio, and video clips necessary for the project **(3/3)**
2. Use time management to produce video according to production schedule **(3/3)**

Ethics (12 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(1/1)**
2. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

3. Demonstrate knowledge of copyright and intellectual property protection issues **(3/3)**

4. Investigate how the First Amendment, Freedom of Information Act, libel, slander, and copyright laws affect video production **(1/1)**

   - Describe copyright laws related to the use of text, images, and recorded, Internet, and oral materials
   - Describe issues related to libel and slander

Editing (8 questions)

1. Review program timeline to form a logical and smoothly running story **(3/3)**

2. Demonstrate knowledge of analog video standards; NTSC, PAL, SECAM **(1/1)**

3. Review audio mix **(2/3)**

4. Identify appropriate distribution format **(1/3)**

   - VHS
   - Streaming Video
       ‣ Real media
       ‣ Windows Media
       ‣ Quick Time
   - CD ROM
   - DVD

Sound (3 questions)

1. Select and review appropriate passages of music and effects **(1/2)**

2. Demonstrate general knowledge of sound format **(1/1)**

Titles and Graphics (2 questions)

1. Review accuracy of content **(1/2)**

   - Titles
   - Credits

Evaluation (5 questions)

1. Review edited video to determine if corrections are necessary **(1/3)**

2. Critique and analyze completed video to determine if it accomplishes the objectives for the project **(1/3)**

3. Evaluate copyright appropriateness **(1/3)**

Standards and Test Content
3D Modeler

Planning (8 questions)

1. Demonstrate knowledge of planning considerations: **(1/3)**

   - Target audience
   - Availability of hardware
   - Selection of appropriate graphics software
   - Selection of format
   - Delivery mode
   - Set schedule

2. Study character sketches and storyboards to identify areas that can't be reproduced **(1/3)**

3. Confer with production team concerning constraints and limitations **(1/3)**

   - Environment
   - Character
   - Scope of animation – how it will deform
   - Output (film, game, print)
   - Triangles or quads
   - Poly count limit

4. Exhibit knowledge of the critical elements in designing a production in the stages of pre-production, production, and postproduction **(1/3)**

   - Identify areas of artwork that are missing and need to be designed.
   - Identify unique characteristics of a model.
   - Identify differences if creating a family of similar models.
   - Plan development of models.
   - Identify the appropriate graphics tools needed to complete production.
   - Identify the linkage from each stage to the next in processes and activities.
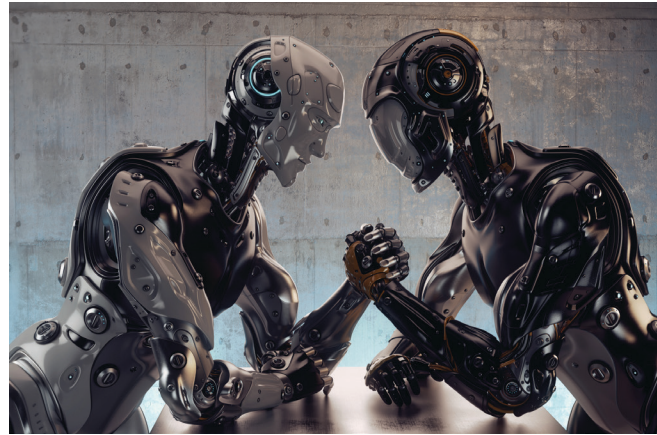
Managing (6 questions)

1. Gather concept art, assets, character sketches, environment sketches, and storyboard/animatic information **(2/2)**

2. Use time management to produce models according to the production schedule **(3/3)**

3. Conform to the appropriate naming scheme/conventions **(3/3)**

   - Project
   - File

4. Scene management **(2/3)**

Ethics (2 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(1/1)**

2. Demonstrate knowledge of copyright and intellectual property protection issues **(3/3)**

3. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

Production Standards (5 questions)

1. Determine model requirements for story **(1/2)**

   - Complexity details
   - Integrated clothing and accessories
   - Relationship between models

     ‣ Size

   - Hair/fur
   - Blendshape requirements

     ‣ Weight

2. Determine model media format and delivery output **(1/3)**

   - Export settings (obj & FBX)
   - Knowledge of how to activate 3rd party plug-ins
   - Import settings

3. Understand how to prepare geometry for sculpting **(1/2)**

Modeling Techniques (18 questions)

1. Demonstrate creation of polygon models **(3/3)**

   - Create primitive shapes
   - Extrude surfaces to build complex shapes
   - Bridge surfaces
   - Vertex, edge, and face manipulation
   - Mirror geometry
   - Boolean operations to combine geometry
   - Add divisions and edge loops
   - Combine, separate, extract geometry
   - Chamfer, bevel and crease
   - Merge border edges
   - Smooth vertices
   - Reduction of geometry

2. Demonstrate creation of subdivision surface models **(1/2)**

   - Create primitive shapes
   - Understand polygon proxy modes
   - Set component display level
   - Vertex, edge, and face manipulation
   - Extrude geometry
   - Crease edge/vertex
   - Mirror/merge geometry

3. Demonstrate creation of NURBS models **(1/2)**

   - Project a curve on a surface
   - Modify curves, length, bend, curl, scale curvature
   - Trim surfaces
   - Attach, detach, align, open/close curves and surfaces
   - Hulls, surface point, control vertex, isoparm manipulation
   - Create surfaces from curves

     ‣ Loft
     ‣ Planar

   - Rebuild curves
   - Rebuild surfaces
   - Reverse surface direction
   - Create primitives

     ‣ Revolve
     ‣ Birail

4. Convert to and from polygon, subdivision, and NURBS. **(3/3)**

5. Understand normals and their role **(1/2)**

6. Topology **(2/2)**

   - Ngons
   - Triangles
   - Quads
   - Poles

Modifiers (3 questions)

1. Deformation **(2/2)**

   - Lattice
   - Bulge
   - Twist
   - Bend
   - Sculpt geometry

2. Animation **(2/2)**

   - Create Blend shapes as required for the animation
   - Soft modification/soft selection

Surface Texture Techniques (9 questions)

1. Apply surface material to model **(1/2)**

2. Apply texture to model **(1/3)**

3. Understanding UV's **(1/3)**

   - UV layout
   - Unwrapping UV's
   - Manipulating UV's

4. Create and assign textures to polygons **(1/3)**

   - Create a Diffuse Map
   - Edit texture maps
     - Modify the Diffuse Map
     - Create a Specular Map from the Diffuse Map
     - Add wear and tear details using ambient occlusion
   - Save UV snapshot
   - Assign your maps to the shader
     - Modify the Diffuse Map
     - Create a Bump Map

5. Materials **(1/2)**

   - Place secondary textures as required
   - Understand differences in materials

6. Mental Ray **(1/2)**

   - Create an Ambient Occlusion Map
   - Creating and applying displacement maps
   - Baking textures

Scene Composition (1 questions)

1. Scene layout and dressing **(1/2)**

2. Demonstrate lighting techniques for the project **(1/1)**

3. Camera angles and techniques **(1/1)**

4. Understand techniques for rendering a turntable view **(1/2)**

Sculpting (2 questions)

1. Determine if model needs sculpting based off the requirements **(2/3)**
2. Prepare model for export into selected software **(2/2)**
3. Demonstrate sculpting techniques: **(3/3)**
   - Symmetry / Asymmetry
   - Additive / Subtractive Sculpting
   - Understanding differences of brushes
   - Adding new pieces of geometry
   - Creating / using alphas
   - Moving and repositioning mesh
4. Polygon management based on hardware **(1/3)**
5. Scene management of multiple pieces of geometry **(2/2)**
6. Understanding topology flow and how to manipulate it **(2/3)**
7. Export out of sculpting software to host application **(2/3)**

Evaluation (1 question)

1. Critique and analyze completed project to determine if it accomplishes the objective of the project **(1/3)**

Standards and Test Content
3D Animator

Planning (5 questions)

1. Study storyboards to determine animation outcome **(2/2)**

2. Demonstrate knowledge of planning considerations: **(1/3)**
   - Target audience
   - Availability of hardware
   - Selection of appropriate graphics software
   - Selection of format
   - Delivery mode
   - Set schedule

Managing (6 questions)

1. Gather Scene Assets, reference materials, and key poses for production **(1/3)**

2. Use time management to produce models according to the production schedule **(3/3)**

3. Conform to the appropriate naming schemes/conventions **(3/3)**
   - Project
   - File

Ethics (4 questions)

1. Organize and maintain compliance, license, and warranty information related to the project **(1/1)**

2. Demonstrate knowledge of copyright and intellectual property protection issues **(3/3)**

3. Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection) **(3/3)**

Rigging (12 questions)

1. Build relationships between objects **(3/3)**
   - Driven Key relationship

2. Understanding constraints **(1/2)**

3. Bones / Joints **(3/3)**
   - Creation
   - Editing
   - Replacement
   - Naming
   - Hierarchy

4. Binding **(3/3)**
   - Smooth / Rigid
   - Weights
   - Detach
   - Bind pose

5. Character Rigging **(2/3)**
6. Facial Rigging **(1/3)**
7. Inanimate object rigging **(2/2)**
8. Understanding deformers **(1/2)**
9. Utilize expressions **(1/2)**
10. Utilize scripting for rigging **(1/2)**
11. Create cache for geometry **(1/1)**

Camera Orientation (4 questions)

1. Camera placement **(1/2)**
2. Field of view techniques **(1/1)**
3. Camera movements **(1/2)**
   - Dolly
   - Motion Paths
   - Pan
   - Zoom
   - Camera shake
4. Working with match moved camera file **(1/1)**

Animation Techniques (12 questions)

1. Keyframing and key frame manipulation **(3/3)**
2. Animation curve editor **(2/2)**
   - Understand and identify curve and tangent types
3. Path animation **(1/2)**
4. Non-linear animation **(1/2)**
5. Facial Animation **(1/1)**
6. Animating to sound **(2/1)**
7. Animating with expressions/scripts **(1/1)**
8. Understand timeline controls **(3/2)**
9. Animating with deformers **(1/1)**
   - Jiggle
   - Lattice
   - Squash
   - Twist
10. Blend shapes **(1/3)**
11. Frame rate **(1/3)**
12. Animating inanimate objects **(1/1)**
13. Animation layers **(1/1)**
14. Multi-character animation **(2/1)**
15. Understanding body mechanics in relation to characters **(1/1)**

Motion Capture (2 questions)

1. Using MoCap data **(1/1)**
2. Clean-Up Motion Capture Data **(1/1)**
3. Re-targeting animation data **(1/1)**

Animation Fundamentals (6 questions)

1. Understand the principles of animation **(2/3)**
   - Squash / stretch
   - Timing / weight
   - Arcs
   - Secondary animation
   - Anticipation
   - Follow thru / Overlap
2. Creating cycles **(3/3)**
   - Walk cycles
   - Jumps
   - Combining cycles

Dynamics and Special Effects (3 questions)

1. Understand particle dynamics **(1/1)**
2. Understand rigid body dynamics **(1/1)**
3. Understand soft body dynamics **(1/1)**

Evaluation (1 question)

1. Critique and analyze completed project to determine if it accomplishes the objective of the project **(1/3)**

Sample Questions

_____ 1. What is used to translate the director's key visualizations into effective shots and shot sequences?

    a. floor plan
    b. script
    c. shot chart
    d. storyboard

_____ 2. What is the process of analyzing media and automatically creating metadata based on the placement of the talent?

    a. face analysis
    b. face detection
    c. media analysis
    d. media detection

_____ 3. What is the most important part of selecting a location?

    a. approval of talent and production crew
    b. easy access for the production crew
    c. proximity to hotels and restaurants
    d. securing a location release

_____ 4. What is used to make the screen credits move from the bottom to the top?

    a. crawl
    b. dissolve
    c. scroll
    d. swipe

_____ 5. What should be considered when makeup is applied under lights?

    a. color temperature
    b. gender of the talent
    c. makeup quality
    d. opinion of the talent

_____ 6. What is the most common frame rate used for film?

    a. 24 fps
    b. 25 fps
    c. 29.97 fps
    d. 30 fps

7. Using music found in a video on the web is an example of:

    a. consumer rights.
    b. copyright infringement.
    c. fair use.
    d. trademark rights.

8. Which format is used when generating an animation for viewing in North America?

    a. NTSC
    b. NTSC-J
    c. PAL
    d. SECAM

9. What common multimedia format is used for saving movies and other video files?

    a. MOV
    b. PNG
    c. PSD
    d. WAV

10. Depth in a composition is achieved by:

    a. flattening the layers.
    b. using different layer positions.
    c. using smart objects.
    d. vectorizing the layers.

Sample Questions — Key

1. What is used to translate the director's key visualizations into effective shots and shot sequences?

   a. floor plan   Wrong, but plausible
   b. script   Wrong, but plausible
   c. shot chart   Wrong, but plausible
   d. storyboard   Correct

2. What is the process of analyzing media and automatically creating metadata based on the placement of the talent?

   a. face analysis   Wrong, but plausible
   b. face detection   Correct
   c. media analysis   Wrong, but plausible
   d. media detection   Wrong, but plausible

3. What is the most important part of selecting a location?

   a. approval of talent and production crew   Wrong, but plausible
   b. easy access for the production crew   Wrong, but plausible
   c. proximity to hotels and restaurants   Wrong, but plausible
   d. securing a location release   Correct

4. What is used to make the screen credits move from the bottom to the top?

   a. crawl   Wrong, but plausible
   b. dissolve   Wrong, but plausible
   c. scroll   Correct
   d. swipe   Wrong, but plausible

5. What should be considered when makeup is applied under lights?

   a. color temperature   Correct
   b. gender of the talent   Wrong, but plausible
   c. makeup quality   Wrong, but plausible
   d. opinion of the talent   Wrong, but plausible

6. What is the most common frame rate used for film?

   a. 24 fps   Correct
   b. 25 fps   Wrong, but plausible
   c. 29.97 fps   Wrong, but plausible
   d. 30 fps   Wrong, but plausible

7. Using music found in a video on the web is an example of:

  a. consumer rights.   Wrong, but plausible
  b. copyright infringement.   Correct
  c. fair use.   Wrong, but plausible
  d. trademark rights.   Wrong, but plausible

8. Which format is used when generating an animation for viewing in North America?

  a. NTSC   Correct
  b. NTSC-J   Wrong, but plausible
  c. PAL   Wrong, but plausible
  d. SECAM   Wrong, but plausible

9. What common multimedia format is used for saving movies and other video files?

  a. MOV   Correct
  b. PNG   Wrong, but plausible
  c. PSD   Wrong, but plausible
  d. WAV   Wrong, but plausible

10. Depth in a composition is achieved by:

  a. flattening the layers.   Wrong, but plausible
  b. using different layer positions.   Correct
  c. using smart objects.   Wrong, but plausible
  d. vectorizing the layers.   Wrong, but plausible

Abbreviations, Symbols and Acronyms

When abbreviations, symbols or acronyms are more commonly used in written and verbal communications within the media production industry than the words they represent, they will also be used on the written examination required for competency. The following is a list of abbreviations, symbols and acronyms used on the media production examinations.

%	percent
©	copyright
B	bel
2D	two dimensional
3D	three dimensional
8mm	eight millimeter
AIFF	Audio Interchange File Format
ANSI	American National Standards Institute
ASCAP	American Society of Composers, Authors and Publishers
ASP	Active Server Pages
AV	Audio Visual
AVI	Audio Video Interleave
BMI	Broadcast Music, Inc.
CD-ROM	Compact Disc Read-Only Memory
Cir.	circuit
CD	compact disc
CG	computer graphics
CV	control vertices
dB	decibel
DVD	Digital Video Disc
FBX	Autodesk file format
FLV	Flash Video
Fc	foot-candle
Fps	frames per second
FLV	Flash Video
GB	gigabyte
GIF	Graphics Interchange Format
H.264	video encoding standards for Blu-ray discs
HDTV	high-definition television
Hi8	High-band Video8
IEEE 1394	Firewire
IK	inverse kinematics
JPEG (JPG)	Joint Photographic Experts Group
kHz	kilohertz
L_w	sound energy level
MA	Maya project file
MB file extension	Autodesk Maya binary scene file
MB	megabyte
MHz	megahertz

MIDI	musical instrument digital interface
MiniDV	Mini Digital Video
Mm	millimeter
MOV	MPEG 4 video container file format used in Apple's Quicktime program
MP3	Moving Picture Experts Group – Level 3
MP4	Moving Picture Experts Group – Level 4
MPEG	Moving Picture Experts Group (deals with audio and video)
NTSC	National Television System Committee
NURBS	non-uniform rational basis spline
OBJ	object files
PC	personal computer
PAL	Phase Alternating Line
PSD	layered image file in Adobe Photoshop
RCA	Radio Corporation of America
RGB	red, green, blue
RMV	RealMedia Variable
SECAM	Sequential Color with Memory
SMPTE	Society of Motion Picture and Television Engineers
SVG	Scalable Vector Graphics
SVHS	Super Video Home System
SWF	small web format
S-Video	Super-Video
U.S.	United States
USB	universal serial bus
UV	The letters "U" and "V" denote the axes of the 2D texture
v.	versus
VU meter	Volume Unit meter
WAV	Waveform Audio File Format
XYZ	denotes the axes of the 3D object in model space

Test Taking Strategies

This section of the study guide contains valuable information for testing success and provides a common-sense approach for preparing for and performing well on any test.

General Testing Advice

1. Get a good night's rest the night before the test — eight hours of sleep is recommended.
2. Avoid junk food and "eat right" several days before the test.
3. Do not drink a lot or eat a large meal prior to testing.
4. Be confident in your knowledge and skills!
5. Relax and try to ignore distractions during the test.
6. Focus on the task at hand — taking the test and doing your best!
7. Listen carefully to the instructions provided by the exam proctor. If the instructions are not clear, ask for clarification.

Testing Tips

1. Read the entire question before attempting to answer it.
2. Try to answer the question before reading the choices. Then, read the choices to determine if one matches, or is similar, to your answer.
3. Do not change your answer unless you misread the question or are certain that your first answer is incorrect.
4. Answer questions you know first, so you can spend additional time on the more difficult questions.
5. Check to make sure you have answered every question before you submit the assessment for scoring — unanswered questions are marked incorrect.

NOTES

NOTES