MEDIA PRODUCTION: 3D ANIMATOR

OD20606

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COMPETENCY-BASED EDUCATION: OKLAHOMA'S RECIPE FOR SUCCESS

By the Industry for the Industry

Oklahoma's *Career*Tech system of competency-based education uses industry professionals and certification standards to identify the knowledge and abilities needed to master an occupation. This industry input provides the foundation for development of instructional materials that help prepare the comprehensively trained, highly skilled employees demanded by our workplace partners.

Tools for Success

*Career*Tech 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 in Oklahoma's *Career*Tech system. The skills standards outline the knowledge, skills, and abilities needed to perform related jobs within an industry. Skills standards are aligned with national skills standards; therefore, a student trained to the skills standards possesses technical skills that make him/her employable in both state and national job markets.

Curriculum materials contain information and activities that teach students the knowledge and skills outlined in the skills standards. In addition to complementing classroom instruction, curriculum resources provide supplemental activities to enhance learning and provide hands-on training experiences.

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

Although each of these components satisfy a unique purpose in competency-based education, they work together to reinforce the skills and abilities students need to gain employment and succeed on the job.

MEASURING SUCCESS

Written competency assessments are used to evaluate student performance. Results reports communicate competency assessment scores to students and provide a breakdown of assessment results by duty area. The results breakdown 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.

Group analysis of student results also provides feedback to instructors seeking to improve the effectiveness of career and technology training. Performance patterns in individual duties indicate opportunities to evaluate training methods and customize instruction.

TRUE TO OUR PURPOSE

"We prepare Oklahomans to succeed in the workplace, in education, and in life" defines the mission of Oklahoma *Career*Tech and its competency-based system of instruction. Skills standards, curriculum, and assessments that identify and reinforce industry expectations provide accountability for programs and assure *Career*Tech's continued role in preparing skilled workers for a global job market

Duty ES: Demonstrate Employability Skills

Desired Skill Level: The level of training necessary for the student to be employable in the occupation specified:

4 – Skilled		Can perform the task independently with no additional training
3 – Moderately Skilled		Has performed the task independently during training program; limited additional training may be required
2 – Limited Skill		Has practiced task during training program; additional training is required to develop the skills
1 – No Exposure		No experience or knowledge in this area

*DSL = Desired Skill Level

DUTY ES: Demonstrate Employability Skills

CODE	TASK	DSL
ES.01	Demonstrate personal characteristics desired by employers • Detail-oriented • Good communication skills • Good attendance • Neat appearance • Honest/ethical • High self-esteem • Flexible • Goal-oriented • Commitment • Cooperative • Initiative • Responsible • Positive attitude • Self management • Drug free/alcohol free	4
ES.02	Demonstrate effective interpersonal skills	4
ES.03	Demonstrate a positive attitude	4
ES.04	Demonstrate customer service skills	4
ES.05	Utilize proper telephone techniques	4
ES.06	Use job-related terminology, symbols, and abbreviations	4
ES.07	Interpret and follow oral and written directions	4

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ES.08	Recognize the importance of team work and participate as a team member	4
ES.09	Use critical thinking skills in workplace situations	4
ES.10	Demonstrate negotiation skills	3
ES.11	Demonstrate leadership skills	2
ES.12	Understand organization structure and employee roles	3
ES.13	Develop and demonstrate public presentation skills	3
ES.14	Understand cultural diversity in the workplace	3
ES.15	Explore opportunities for advanced training	3
ES.16	Participate in computer literacy training, when applicable	4
ES.17	Perform self-evaluation to establish/modify career goals	3
ES.18	Identify employment opportunities	4
ES.19	Identify levels of training recommended for related careers	3
ES.20	Understand salary, wages, and benefits packages	4
ES.21	Complete an employment application	4
ES.22	Prepare a resume	4
ES.23	Complete an employment interview	4
ES.24	Complete a W-4 form	3
ES.25	Create an employment portfolio	3
	Safety	
ES.26	Explain the purpose for safety policies	4
ES.27	Participate in safety training • Locate information in MSDS • Office safety • Ergonomics • Blood born pathogens • Describe the types of fire hazards found in the workplace • Discuss electrical hazards • Demonstrate safe material handling techniques • Lifting • Transporting • Storing • Understand established first aid procedures • Practice good housekeeping • Comply with company safety policies	4
ES.28	Explain the proper steps in reporting an accident or emergency	4
ES.29	Explain the hazards associated with specific types of equipment and tools	4
	Academic Skills	4
ES.30	Apply reading and writing skills	4
ES.31	Apply mathematical operations involving whole numbers, fractions, decimals, percentages, mathematical word problems, formulas, ratios, etc., when necessary	4
ES.32	Interpret charts, tables, and graphs	3
	Problem Solving	

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ES.33	Utilize problem solving and critical thinking techniques to identify and solve problems	4
	• Brainstorming	
ES.34	Discuss data collection techniques for the problem solving process	3
ES.35	Identify opportunities for applying problem solving skills	3
	Technology Skills	
ES.36	Demonstrate knowledge of basic computer concepts	4
ES.37	Demonstrate basic computer skills	4
	• Word processing skills	
	• Email	
	• Accounting software	
	• Spreadsheet applications	
	• Database administration (as needed)	
	• Presentation software	
	• Internet research	

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Duty A: Planning

Duty B: Managing

Duty C: Ethics

Duty D: Rigging

Duty E: Camera Orientation

Duty F: Animation Techniques

Duty G: Motion Capture

Duty H: Animation Fundamentals

Duty I: Dynamics and Special Effects

Duty J: Evaluation

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

DUTY A: Planning

CODE	TASK	F/C
A.01	Study storyboards to determine animation outcome	2/2
A.02	Demonstrate knowledge of planning considerations: • Target audience • Availability of hardware • Selection of appropriate graphics software • Selection of format • Delivery mode • Set schedule	1/3

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DUTY B: Managing

CODE	TASK	F/C
B.01	Gather Scene Assets, reference materials, and key poses for production	1/3
B.02	Use time management to produce models according to the production schedule	3/3
B.03	Conform to the appropriate naming schemes/conventions • Project • File	3/3

DUTY C: Ethics

CODE	TASK	F/C
C.01	Organize and maintain compliance, license, and warranty information related to the project	1/1
C.02	Demonstrate knowledge of copyright and intellectual property protection issues	3/3
C.03	Demonstrate knowledge of legal issues: copyright issues (use, fair use, and protection)	3/3

DUTY D: Rigging

CODE	TASK	
D.01	Build relationships between objects • Driven Key relationship	3/3
D.02	Understanding constraints	1/2
D.03	Bones / Joints • Creation • Editing • Replacement • Naming • Hierarchy	3/3
D.04	Binding • Smooth / Rigid • Weights • Detach • Bind pose	3/3
D.05	Character Rigging	2/3
D.06	Facial Rigging	1/3
D.07	Inanimate object rigging	2/2
D.08	Understanding deformers	1/2
D.09	Utilize expressions	1/2
D.10	Utilize scripting for rigging	1/2
D.11	Create cache for geometry	1/1

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DUTY E: Camera Orientation

CODE	TASK	
E.01	Camera placement	1/2
E.02	Field of view techniques	1/1
E.03	Camera movements • Dolly • Motion Paths • Pan • Zoom • Camera shake	1/2
E.04	Working with match moved camera file	1/1

DUTY F: Animation Techniques

CODE	TASK	
F.01	Keyframing and keyframe manipulation	3/3
F.02	Animation curve editor • Understand and identify curve and tangent types	2/2
F.03	Path animation	1/2
F.04	Non-linear animation	1/2
F.05	Facial Animation	1/1
F.06	Animating to sound	2/1
F.07	Animating with expressions/scripts	1/1
F.08	Understand timeline controls	3/2
F.09	Animating with deformers • Jiggle • Lattice • Squash • Twist	1/1
F.10	Blend shapes	1/3
F.11	Frame rate	1/3
F.12	Animating inanimate objects	1/1
F.13	Animation layers	1/1
F.14	Multi-character animation	2/1
F.15	Understanding body mechanics in relation to characters	1/1

DUTY G: Motion Capture

CODE	TASK	
G.01	Using MoCap data	1/1
G.02	Clean-Up Motion Capture Data	1/1
G.03	Re-targeting animation data	1/1

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DUTY H: Animation Fundamentals

CODE	TASK	F/C
H.01	Understand the principles of animation • squash / stretch • Timing / weight • Archs • Secondary animation • Anticipation • Follow thru / Overlap	2/3
H.02	Creating cycles • Walk cycles • Jumps • Combining cycles	3/3

DUTY I: Dynamics and Special Effects

CODE	TASK	F/C
I.01	Understand particle dynamics	1/1
I.02	Understand rigid body dynamics	1/1
I.03	Understand soft body dynamics	1/1

DUTY J: Evaluation

CODE	TASK	
J.01	Critique and analyze completed project to determine if it accomplishes the objective of the project.	1/3

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