

Imperial Valley Regional Occupational Program
 687 State Street, El Centro, CA 92243
 (760) 482-2600 • Fax (760) 482-2751 • Website: www.ivrop.org • Email: info@ivrop.org
Course Title: 3D Design and Animation Instructor: Linda Storts Hours: 180

Major Units of Instruction Arts, Media and Entertainment Sector – Media and Design Arts Pathway (A)	Key Assignments/ Common Assessments	Standards (Anchor / Pathway)	Academic / Common Core Standards
1. Essential Employability / Career Preparation Skills	IVROP Common Assessments: Oral Presentation Assignment-“Who am I?” Application and Resume Assignment(s) Portfolio: Personal History, List of References, Resume, Job Application, 3 Letters of Recommendation, Certificates and Awards, Employability Skills, Work Samples	2.0 Comm. 2.0 Comm, 3.0 Career Plan A5.6 Prepare Portfolios of original art.A2.5-A2.9	LS 9-10, 11-12.6 SLS 11 – 12.2
2. Class Orientation	Rules and Procedures “Who am I ?” Power Point Presentation	2.0 Comm. 10.0 Technical Skills	LS 9-10, 11-12.6
3.HISTORY OF COMPUTER ANIMATION a. Research and Presentation Project	This is the oral presentation at the beginning of 2nd Semester.	2.0 Communication, 4.0 Technology, 7.4 Responsibility, 10.0 Technology & Skills A3.0,	LS 11-12.2,RSL 11-12.4,
4. DESIGN ELEMENTS a. Principles and Elements of Art b. Principles of Animation c. Design and Animation critiques d. Design problem solving activities e. Rules of Copyright	Introduction to The Principles of Design- Video and Activity Principles and Elements of Art Test Twelve Principles of Animation Test Rules of Copyright Test	<i>10.0 Technical Skills, A1.1, A2.3, A2.4, A3.2, A5.3, A.8.0, B1.1, B1.1, B2.1, B2.2, B3.1, B3.2,</i>	LS 11-12.2,RSL 11-12.4, SLS 11-12.1d
5.MODELING a. Primitives b. Splines c. Modeling with modifiers, Booleans and photos	Cheeseburger Creation Project-Introduces Box Modeling, Modifiers, 3Key Lighting, Camera on a path, Use of Materials , Mapping, and Animation Techniques. Cheeseburger Commercial Project Modeling a Revolving Door Modeling Buildings with Modifiers Modeling Buildings with Booleans Modeling Cabinets with the Ribbon Using Photos to Model Facades	<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *.3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills,11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	LS 11-12.1,LS 11-12.6, RSIT 11-12.2, LS 11-12.1,LS 11-12.6, RLST 11-12.3-11-12.5, WS 11- 12.4

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6.LIGHTING & CAMERAS a. Using cameras b. Lighting setup c. Lighting Systems	Lighting and Rendering in Daylight Lighting and Rendering at Night Indoor Lighting Analysis	<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	LS 11-12.1,LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4
7.MATERIALS & MAPPING a. Creating materials b. Texture mapping	Introduction to Materials and Mapping Composite Mapping-Garage Door Spline Mapping_ Brick Archway Multi/Sub Object Mapping- Stadium Seats Mapping Characters with Unwrap UWW	<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	LS 11-12.1,LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4
8.ANIMATION TECHNIQUES Key framing a. Path animation b. Walk cycles	Animating a Bouncing Ball Working with the Walkthrough Assistant	<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1,</i>	LS 11-12.1,LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4

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		A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3	
9.DYNAMICS & FLUID EFFECTS a. Forces b. Particles	Particle Trees MR Proxies Explosions Realistic Water Smoke Tornado Simulation	2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *.3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3	LS 11-12.1, LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4
10.CHARACTER DESIGN a. Box Modeling b. Biped c. Physique d. Motions and Footsteps	Box Model a Simple Character Insert a Biped into the Model Mesh Apply Physique Add Footsteps and Motion	2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *.3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3	LS 11-12.1, LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4
8. RENDERING	Creating a Shadow Study Using Depth of Field Alternative Renders	2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *.3, 8.6 Ethics, 9.7 Teamwork, 10.2,	LS 11-12.1, LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4

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		<i>10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	
9. INDEPENDENT STUDY PROJECT (4.5, 5.5, 7.7, 8.4, 9.3, 9.7, 10.7, 11.0, AME1.0, AME 2.2-2.4) Students choose one <ol style="list-style-type: none"> 1. Character Design 2. Story telling 3. Anatomy 4. Space and Architecture 5. Motion and Animation 6. Real Time Gaming 		<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	LS 11-12.1, LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4 WS 11-12.6
9. WEBFOLIO	Webfolio Project Introduction, List of References, Resume, , Certificates and Awards, Employability Skills, Gallery of Work Samples, Contact page	<i>2.3-2.6 Communication, 4.0 Technology, 5.0 Problem Solving, 6.6 Safety & Health, 7.4-7.7 Responsibility, *3, 8.6 Ethics, 9.7 Teamwork, 10.2, 10.3 Technical Skills, 11.0 Demonstration and Application A2.0, A8.0 A1.1, A1.2, A2.2, A2.3, A3.1, A6.1, A6.2, A8.1, A8.2, A9.1, A9.3, B1.1, B1.2, B1.2, B2.1, B2.2, B3.1, B3.2, B4.2, B5.1, B5.2, B5.3</i>	LS 11-12.1, LS 11-12.6, RLST 11-12.3-11-12.5, WS 11-12.4 WS 11-12.6
Total Change title to 3D Design and Animation	Change Hours to 180		

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Cross-Cutting Anchor Standards and Related Common Core Standards - Detailed version for each Industry Sector available at link on IVROP web page.

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| <ol style="list-style-type: none"> 1. Academics (Analyze and apply appropriate academic standards for industry sector). 2. Communications (Acquire and accurately use sector terminology and protocols at the career and college readiness level for communicating effectively...) 3. Career Planning and Management (Integrate multiple sources of career information from diverse formats to make informed career decisions...) 4. Technology (Use existing and emerging technology to investigate, research, and produce products and services...) 5. Problem Solving and Critical Thinking (Conduct short and sustained research to create alternative solutions to solve a problem using critical & creative thinking...) 6. Health and Safety (Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms...) 7. Responsibility and Flexibility (Initiate/participate in a range of collaborations demonstrating behaviors that reflect personal and professional responsibility & flexibility) 8. Ethics and Legal Responsibilities (Practice professional, ethical, and legal behavior, responding thoughtfully...) 9. Leadership and Teamwork (Work with peers to promote divergent and creative perspectives, leadership, group dynamics...) 10. Technical knowledge and Skills (Apply essential technical knowledge and skills...) 11. Demonstration and Application (Demonstrate and apply the Knowledge and skills contained in the Industry anchor and pathway standards in classroom, laboratory, and workplace settings and through CTSO's career and technical student organizations). | <p><i>See Matrix for Pathway</i>
 <i>LS 9-10, 11-12.6</i>
 <i>SLS 11-12.2</i>
 <i>WS 11-12.6</i>
 <i>WS 11-12.7</i>
 <i>RSTS 9-10, 11-12.4</i>
 <i>SLS9-10, 11-12.1</i>
 <i>SLS 11-12.1d</i>
 <i>SLS 11-12.b1</i>
 <i>WS 11-12.6</i></p> |
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