



El Camino College
COURSE OUTLINE OF RECORD – Official

Subject:	DART
Course Number:	101
Descriptive Title:	Digital Concept Design Principles and Tools
Division:	Fine Arts
Department:	Digital Art and Design Technology
Course Disciplines:	Multimedia
Catalog Description:	This course develops the foundational skills for digital drawing for concept design. Students will learn the principles of concept design, perspective drawing and visual communication of concepts. Students will learn and practice hand based constructive drawing techniques with digital input tools and raster image software to develop visual concepts through drawings of hard surface objects, environments, and characters for use as concepts for 2D and 3D animation, video games, and other entertainment media.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	2
Hours Laboratory (per week):	3
Outside Study Hours:	4
Total Course Hours:	90
Course Units:	3
Grading Method:	Letter Grade and Pass/No Pass
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	FALL 2024
Transfer UC:	No
Effective Date:	
General Education ECC:	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	

<p>Student Learning Outcomes:</p>	<p>Upon completion of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. apply principles of art and design (perspective, volume, contrast, opacity/transparency, layers, etc.) to the creation of imagined environments, props, and other digital assets. 2. apply the use of value (light, shadow, and greyscale) to add contour to 2D digital drawings. 3. identify and explore career pathways for technical, storyboard, and concept artists across industries.
<p>Course Objectives:</p>	<ol style="list-style-type: none"> 1. Digitally draw hard surface environments, props, vehicles, characters, in perspective and orthographically. 2. Use job-specific hardware/software for workflows and delivery of content to various platforms. 3. View and respond to a variety of industry related artistic products integrating industry appropriate vocabulary. 4. Use industry terminology appropriately when discussing projects, writing proposals, and presenting work. 5. Examine the difference between cultural appreciation and cultural appropriation to avoid stereotypes and misrepresentation of different groups. 6. Use research, imagery, and creative inspiration to generate a mood board or concept document to develop ideas. 7. Provide, accept, and integrate constructive feedback at various stages of a project. 8. Use industry-standard asset tracking, file naming conventions, and storage/back-up protocols. 9. Use perspective, line, and greyscale shading techniques to create structured compositions of imagined concepts. 10. Apply practices of concept design to focused assignments. 11. Create a body of work for an industry ready portfolio.
<p>Major Topics:</p>	<p>I. Hardware and System Software Concepts (2 hours, lecture)</p> <ol style="list-style-type: none"> A. File management including saving, save as, copying and renaming files, saving documents to the cloud B. Managing workflow C. Keyboard shortcuts and time saving techniques D. Digital Input Tools (graphic tablets and stylus use) <p>II. Demonstrate Raster Graphics Software Principles and Techniques (2 hours, lecture)</p> <ol style="list-style-type: none"> A. File size, resolution, pixel dimensions, etc. B. Raster selection methods C. Use of Layers in Raster Graphics D. Layer Masks and Layer Effects

III. Demonstrate Principles of Composition (4 hours, lecture)

A. Principles of Composition (examples)

1. Subdivision of the picture plane
2. Format (square, rectangular, etc)
3. Framing elements
4. Focal points
5. Balance and Symmetry
6. "leading" the eye
7. Rule of Thirds
8. Golden Ratio
9. Unity

IV. Demonstrate Perspective drawing in a Digital Environment (6 hours, lecture)

A. Perspective Drawing techniques in a digital environment

1. Single Point Perspective
2. Two Point Perspective
3. Three Point Perspective
4. POV: (Worm's eye, bird's eye and human eye view)

B. Projecting Primitive Shapes in Two Point Perspective

1. Plotting horizon, station point, cone of vision from plan view

C. Perspective Constructions

1. Perspective Grids
2. Projection from Plan View
3. Dividing planes
4. Dividing boxes
5. Perspective reflections / mirroring
6. Constructing Ellipses - Minor axis on vanishing lines

V. Demonstrate Principles of Light and Shadow (4 hours, lecture)

- A. Greyscales with Digital Tools
- B. Light Sources
- C. Shadow Projections
- D. Shadow and highlight placement
- E. Shading Primitives
- F. Reflected light
- G. Reflective Surfaces

VI. Constructive Drawing Techniques - Drawing from Reference and Imagination (6 hours, lecture)

- A. Primitive Constructions for Complex Shapes
- B. Lofting of Complex Curved Forms
- C. Drawing “Through” Objects

VII. Visual Development / Concept Design Principles (4 hours, lecture)

- A. Principles of Visual Development / Concept Design
- B. Concept design as practice
- C. Gathering and Using Inspiration Materials
 - 1. Composition of a mood board
 - 2. Curating a visual theme from reference images
 - 3. Presenting a theme through visual materials

VIII. Hard Surface Concepts: Environments, Props, Vehicles, & Characters (8 hours, lecture)

- A. Digital drawing styles
- B. Responding to reference materials
- C. Photo-bashing and Collage Techniques
- D. Draw and Paint Over Techniques
- E. Compression

F. Light, Shadow, Texture

IX. Analysis, and Criticism of Visual Design (8 hours, lab)

A. Establishing and understanding design criteria

B. Methods for constructive feedback

C. Responding to feedback

X. Visiting Practitioner Presentations and Critique (4 hours, lab)

XI. Research and present a short bio of an existing artist in the concept field (4 hours, lab)

A. Develop awareness of concept and storyboard artist career possibilities.

XII. Digital Collage with Layer Masks and Stock Photos (4 hours, lab)

A. Practice Digital File Structure and Management

B. Practice Raster Selection Techniques

C. Practice Source File Management

D. Practice Layer Effects

XIII. Hand Drawn Perspective Construction Practice (6 hours, lab)

A. Practice constructing perspective grids

B. Practice dividing perspective planes

C. Practice mirroring lines over arbitrary lines of symmetry

D. Practice constructing ellipses in proper perspective

XIV. Hand Drawn Digital Construction of Primitives (4 hours, lab)

A. Practice constructing primitives in perspective

B. Practice hand-drawn input with stylus

C. Practice drawing primitives in perspective

D. Practice drawing “through” primitive shapes

E. Practice modifying primitives with holes, rounded corners, etc.

XV. Hand drawn Digital Shading and Gradient on Primitives (4 hours, lab)

	<p>A. Practice shadow projection</p> <p>B. Practice placement of shadows</p> <p>C. Practice placement of highlights</p> <p>XVI. Construction of complex hard-surface forms with primitives (4 hours, lab)</p> <p>A. Practice breaking complex objects into primitives</p> <p>B. Practice light and shadow on complex constructions</p> <p>C. Practice drawing through primitives</p> <p>D. Practice lofting complex forms through perspective construction</p> <p>XVII. Visual Development and Concept Design Theme Development (4 hours, lab)</p> <p>A. Practice collection of visual reference and inspiration</p> <p>B. Practice layout and presentation of visual references and thematic content</p> <p>C. Practice visual storytelling to communicate a cohesive visual concept</p> <p>XVIII. Project to develop concepts for hard-surface visual assets (Environment and prop and vehicle or character) (12 hours, lab)</p> <p>A. Practice iterative sketching for form development</p> <p>B. Practice use of visual references to inspire new concepts</p> <p>C. Practice photobash and draw-over techniques</p> <p>D. Practice application of iterative development through compression and “pushing” designs</p> <p>E. Practice drawing multiple objects within a cohesive visual theme</p>
Total Lecture Hours:	36
Total Laboratory Hours:	54
Total Hours:	90
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	<p>Based on a consistent visual theme, draw a prop for a character in a scene based on the selected theme. Show the entire process from thumbnail sketching and blocking for proportional development to the constructed and detailed final object. Use line and value to detail the object and express the concept visually with only minimal written text or callouts.</p> <p>The final result will be assessed based on the concept’s relevance to the chosen visual theme and inspiration materials, the technical quality of the drawing, and the clarity of the form and details.</p>

Critical Thinking Assignment 1:	<p>Create a visual theme from a specific prompt and intended genre of movie, game, or animation. Show the entire development process from initial visual research to a consistent, curated, inspiration or mood board. Incorporate keywords that describe and relate to the visual theme.</p> <p>The final results will be assessed for completion of process, the consistency of the final curated mood and inspiration boards, and the coherence and relevance of the descriptive keywords to the visual theme.</p>
Critical Thinking Assignment 2:	<p>Select a series of hard surface forms, characters, props, environments, etc and create overlay sketches that break the complex objects into simple positives. Critically assess the forms to use a minimal number of primitives to express the overall form. Show your entire process from the original sketches to a final series of drawings of the objects from various points of view, in perspective, built from primitives with appropriate use of line weight and greyscale shading to show the contour based on series of fixed light sources.</p> <p>The final results will be assessed based on the technical quality and clarity of the final drawings, full engagement with and expression of the process, and the consistency of the line weights and light/shadow in the final drawings.</p>
Other Evaluation Methods:	Completion, Presentation
If Other:	
Instructional Methods:	Demonstration, Discussion, Guest Speakers, Lab, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	Skill practice, Written work (such as essay/composition/report/analysis/research)
If Other:	
Up-To-Date Representative Texts:	<p>Scott Robertson (Author, Editor), Thomas Bertling (Author). <u>How to Draw: drawing and sketching objects and environments from your imagination</u>, 1st edition, Design Studio Press, 2013. (Discipline Standard)</p> <p>Scott Robertson (Author, Editor), Thomas Bertling (Author). <u>How to Render: the fundamentals of light, shadow and reflectivity</u>, 1st edition, Design Studio Press, 2014. (Discipline Standard)</p>
Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite	
Category	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	

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Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Arnold Martin
Date:	09/01/2023
Original Board Approval Date:	06/17/2024
Effective Term:	FALL 2024