

# Digital Art and Animation

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(3D Animation and Video Game Art, Graphic Design, Web Design, and Multimedia)

## MART 314 INTRODUCTION TO COMPUTER GRAPHICS

State of the art computer graphics software are introduced with respect to print, web and motion graphics. Introduction to typography, graphic layout/design fundamentals, web interface design and animation/motion principles and other computer graphics software applications. Following a fine arts approach students generate their own creative content for print and/or electronic publication. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

## MART 325 DIGITAL PAINTING

Using digital painting software and drawing tablets, students use digital tools for the artistic expression of the concepts and techniques of traditional painting. Some painting and computer knowledge desirable. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 48-54 TBA; 48-54 Homework

**Transfer Credit:** CSU

## MART 362 INTRODUCTION TO DIGITAL PHOTOGRAPHY

An introduction to the theory and technology of digital photography. Exploration of the digital camera in both professional and consumer use. Techniques of taking a photograph, types of storage, transferring of images, image editing, and optimizing final output will be evaluated. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

## MART 363 ADVANCED DIGITAL PHOTOGRAPHY

Intermediate to advanced photographic techniques covering the complete cycle of production from image setup to output. Emphasis is placed on developing skills in creating digital photographic imagery for creative and professional expression through a mixture of exercises, lecture, and demonstration. Topics include advanced camera skills, composition, color management, Lightroom and other asset management systems. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 362 or previous experience with raster image editing software (Photoshop or equivalent)

**Transfer Credit:** CSU, UC

## MART 366 COLOR MANAGEMENT AND THEORY

Create a successful color management workflow from digital image to digital print. Understand and use color, calibration, and create profiles to get the desired color output. Topics include pre-press file management, RGB to 4-color ink, paper, output, proofing, and industry standards. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 376 is strongly recommended.

**Transfer Credit:** CSU

## MART 371 USER INTERFACE/USER EXPERIENCE DESIGN

Covers the fundamentals of user-centered interface design concepts and practices for web, mobile devices, and other applications. Students gain an understanding of how users interact with an interface and are introduced to the concepts of usability, interface associations and aesthetics, and the user experience. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

## MART 372 DIGITAL ILLUSTRATION

Using Adobe Illustrator and other digital design software students will develop strategies for content development, visual cohesiveness and graphic production techniques.



Topics include design, layout, typography, and color principles, vector graphics versus raster graphics and project preparation for print. The student will create projects ranging from promotional posters and business cards, to bottle labels and restaurant menus. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 374 UX RESEARCH METHODS

Introduction to the essentials of user experience (UX) research. This class teaches the basics of user experience research methodology, planning, and execution with industry-standard tools, including docs, spreadsheets, study administering and data gathering software, prototypes, and presentation slides. Practical application of skills learned to inform product development and UX design are also covered. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

### MART 376 INTRODUCTION TO DIGITAL IMAGING

An introduction to the theory and technology of digital imaging, this project based course includes assignments covering specific concepts as well as allowing the student creativity to explore the topic and software. Students work with digital images using digital manipulation and image correction tools software such as Adobe Photoshop® to create digital photographs and imagery. Students' images become part of a basic portfolio. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

### MART 378 DIGITAL PAGE LAYOUT

An introductory course in page layout for graphic design for both print and electronic publication. Through projects and assignments, students integrate sound design principles and digital software skills in the creation of multiple page documents. Both Macintosh and Windows environments are supported. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 379 INTRODUCTION TO DIGITAL ANIMATION

A project-based course in which both traditional and digital animation techniques such as storyboarding and frame-by-frame animation are explored through the use of 2D digital animation software as a medium for the development of creative computer-based animation. Other topics included in this course deal with the implementation of successful graphic user interface solutions for web design and stand-alone applications using the scripting capabilities of the software. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 380 ADVANCED DIGITAL ANIMATION

This course utilizes 2D digital animation software as a medium for the development and exploration of computer-based cinematic animations, advanced interactive projects as well as the application of basic scripting principles. The class is project-based and geared towards the creation of interactive, self-contained and optimized applications, both for a web media and offline presentations. Student projects are developed through the integration of rich media such as audio and video with interactive code and advanced animation techniques. Further independent instruction is encouraged through a wide range of sources such as internet tutorials, books and experimentation. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Prerequisites:** MART 389 or equivalent

**Transfer Credit:** CSU

### MART 385 CODING FOR DESIGNERS AND ARTISTS

Introduction to writing scripts and code for artists and designers. Using JavaScript and ActionScript, students learn the fundamentals of coding by creating interactive animated graphics. Activities include drawing graphics, controlling animation, working with sound, and interacting with user inputs. Coding concepts covered include working



with variables and arrays, writing functions, working with loops and logic, creating classes and objects, and translating between different coding languages. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 389 DIGITAL MEDIA CAREERS

Introduction to the digital media job market and employment niches. The class describes digital media and the varied work environments including full time and contract opportunities, as well as job search techniques, resume and cover letter writing skills. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Recommended:** Eligibility for ENGL 100.

**Transfer Credit:** CSU

### MART 390 PORTFOLIO CREATION

Portfolio creation is the culminating course for those students interested in the various Certificates of Completion, Certificates of Proficiency, and Associate of Arts Degree in Digital Art and Animation. Students develop a portfolio consisting of work accomplished to date. The portfolio may be print-based or web-based following a format appropriate with the student's career/academic goals. The students also include a résumé that is appropriate for their field of interest and learn the skills necessary to conduct a successful job interview. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Prerequisites:** MART 362 or MART 372 or MART 376 or MART 379 or MART 421 or MART 422 or MART 424 or MART 432 or Instructor permission via portfolio review.

**Transfer Credit:** CSU

### MART 392 CONTENT STRATEGY AND UX WRITING

Introduction to the essentials of content strategy and user experience (UX) writing. This class teaches the basics of information architecture, writing for user interfaces, and content management using industry-standard tools such as docs, spreadsheets, design software, and presentation

slides. Practical application of skills learned to develop content for user interfaces are also covered. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

### MART 393 UX DATA VISUALIZATION

This course provides an introduction as well as hands-on experience in data visualization for user experience (UX). It introduces students to the theory and design principles for creating meaningful displays of quantitative and qualitative data to facilitate decision-making and design modifications or choices. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

### MART 394 INTERACTION DESIGN

This course covers the essentials of interaction and visual design principles and how they are applied. Students learn how to evaluate and analyze the uses of interactive media and understand how viewing interactive media on a variety of screen sizes and devices may impact the experience. They also learn how to apply the principles of design and usability when creating interactive content. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU, UC

### MART 400 MOTION GRAPHICS

Digital integration of audio, video and motion graphics through the creation of experimental short narrative scenes. Covers preproduction and production techniques, emphasizing editing and compression methods for web or DVD delivery. Successful story-telling through the use of story boarding, camera composition and scene sequencing techniques. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Transfer Credit:** CSU



### MART 405 STORYBOARD DEVELOPMENT FOR ANIMATION AND INTERACTIVE MEDIA

Introduction to storyboarding and the planning processes of visual storytelling. Translation of concepts such as shot types, continuity, pacing, transitions and sequencing into a visual narrative. Exploration of cinematic vocabulary and storyboard technique in the creation of both personal and professional expression. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 416 DRAWING FOR ANIMATION

Techniques and concepts of drawing for animation. Topics include 2- and 3-point perspective, anatomy (human, animal, and comparative), gesture, quick sketch, and sequential drawing. Emphasis on capturing movement and pose using line. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 417 PRINCIPLES OF ANIMATION

Using paper and pencil, students learn the fundamental principles underlying all quality animation. Techniques like squash and stretch, overlap, follow-through, weight, arcs, solid dimensional drawing, and appeal are presented. Applying traditional animation skills to applications like Flash, After Effects, and Maya are also included. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 24-27 TBA; 72-81 Homework

**Transfer Credit:** CSU

### MART 418 HISTORY OF ANIMATION

This course is a multicultural and multidisciplinary approach to the production and development of animation throughout history. Material spans the roots of animation before film technology to modern commercial and artistic animated productions. Topics include experimental and traditional animation techniques, an overview of current technologies and the aesthetics and visual styles in different genres. The history of animation is viewed through its social context and impact since its inception, through the past

century to the contemporary era. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Transfer Credit:** CSU, UC

### MART 420 INTRODUCTION TO 3D MODELING AND ANIMATION

Basic concepts of 3D modeling and animation using Autodesk Maya including the production of three-dimensional computer animation and the different approaches to modeling in a 3D environment. Familiarization with both the interface and the production process of 3D animation. Texture mapping, lighting and rendering of simple animation and environments. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** Completion of MART 376 or equivalent.

**Transfer Credit:** CSU

### MART 421 ADVANCED 3D MODELING AND ANIMATION

Continuation of MART 420. Further development of concepts and techniques introduced in MART 420 to establish a solid foundation in storytelling, modeling, animation, texture creation and lighting. Rendering professional final scenes state-of-the-art 3D animation software such as Autodesk Maya. Also covered is the production process and pipeline used in video game companies and animation studios and the final delivery of projects created for various media. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Prerequisites:** MART 420 or equivalent experience

**Transfer Credit:** CSU

### MART 422 INTRODUCTION TO RIGGING

Basic and advanced rigging techniques for 3D models using Autodesk Maya. Students explore character rigging, vertex weighting, control setup, IK/FK switching, on-screen control setup and advanced blend shape techniques. Also introduced will be MEL scripting, creating and using expressions, creating channels and setting up functionality



with set driven keys. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Prerequisites:** MART 420 or equivalent experience

**Transfer Credit:** CSU

### MART 424 3D ANIMATION FUNDAMENTALS

Fundamental principles of performance animation in 3D animation software. Students will develop skills in conveying weight, understanding timing, the use of arcs in movement, and bringing anthropomorphic characters to life. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** Familiarity with 3D animation tools.

**Transfer Credit:** CSU

### MART 425 ADVANCED 3D ANIMATION

Continuation of concepts and techniques covered in MART 424. The principles of animation are covered in depth as they apply to the 3D environment: bipedal locomotion (walks, runs, gait changes), weight, balance, and character performance. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** Completion of MART 424 is strongly recommended, or approval of instructor via demo reel review.

**Transfer Credit:** CSU

### MART 431 SPECIAL EFFECTS AND COMPOSITING

Techniques for the creation of special effects through digital compositing for film and video. Merging original 2D images such as photographs or other still images generated in Photoshop or Corel Painter with 3D images created in Autodesk Maya. Different output formats and uses for these compositing techniques in diverse industries. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Recommended:** Prior experience in After Effects or equivalent.

**Transfer Credit:** CSU

### MART 432 3D ENVIRONMENTS AND HARD SURFACE MODELING

Course covers the creation of 3D worlds and modeling of non-organic forms such as vehicles, surroundings, architecture and mechanical devices as well as developing the look and feel of 3D environments where characters interact. Students learn to use different reference materials and research inspirational resources when generating a world concept. Various rendering techniques and the creative presentation of final work are also covered. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Recommended:** MART 420 or 3D software experience.

**Transfer Credit:** CSU

### MART 433 ADVANCED SPECIAL EFFECTS AND COMPOSITING

Continuation of the techniques presented in MART 431. Advanced techniques for the creation of special effects for film and video. Combining 2D video and animated footage with 3D footage created in commercial 3D animation software. Creating and compositing special effects through particle generation and rendering. Optimizing and outputting final footage for use in video, film, and gaming. *Letter Grade Only. Degree Credit.*

**Units:** 1.5

**Hours/semester:** 24-27 Lecture; 16-18 TBA; 32-36 Homework

**Recommended:** , MART 431 or equivalent experience.

**Transfer Credit:** CSU

### MART 441 INTRODUCTION TO VIDEO GAME DESIGN

Introduction to the essentials of game design using industry-standard game engine, spreadsheets, presentation slides, photo editing, 3D modeling, and reference art to convey game design ideas and specifications. Practical application of skills learned to develop games. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework



**Transfer Credit:** CSU

### MART 442 HISTORY OF VIDEO GAMES

Explores the origin and history of ancient to modern games including board games, card games, arcade amusements, and video games of all kinds. Includes game companies, historic platforms, and common jargon used in the industry. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Transfer Credit:** CSU

### MART 443 GAME DESIGN FUNDAMENTALS

Fundamentals of game design are examined through the theories of fun, challenge, polish, responsiveness and the emotional content of making games. Students build a board or card game and develop a game design document from initial pitch through game specifications. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 441

**Transfer Credit:** CSU

### MART 445 3D GAME SCRIPTING

Explores using a 3D game engine for building 3D levels and creating gameplay using systematic approaches to design. Includes importing 3D assets and scripting character controllers and interactive elements. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 441

**Transfer Credit:** CSU

### MART 446 STORYTELLING WITH GAMES

Discussion and development of plots, character archetypes, and challenges in storytelling that provide the structure to create a unique story experience through gameplay. Examines the aesthetics of games, the designer/player contract, and the Hero's Journey. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 441

**Transfer Credit:** CSU

### MART 447 3D LEVEL DESIGN

Covers artistic, functional and storytelling aspects of video game level design: prototyping, layout and simple scripting of events. Using a 3D game engine, students design and build a single player and multiplayer level. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 445

**Transfer Credit:** CSU

### MART 450 COLLABORATIVE GAME PRODUCTION

Students use project management techniques to organize and communicate as game development prototype teams. Methods explored include Ad hoc, Waterfall, and Agile techniques. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 445

**Transfer Credit:** CSU

### MART 451 RAPID GAME DEVELOPMENT

Students conceive and develop multiple games in a rapid development environment. Brainstorming, conceptualizing, and "finding the fun" of multiple game styles, polishing and adding pizzazz to the game - called JUICE. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72 Homework

**Recommended:** MART 445

**Transfer Credit:** CSU

### MART 452 ADVANCED GAME DESIGN

In-depth exploration of enjoyable gameplay. How to use tutorials, achievements, analytics, and funnels to refine the gameplay experience based on player's experience. Designing economies and challenge ramping to avoid



player burnout and turnover, and encourage engagement.  
*Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72  
 Homework

**Recommended:** MART 443

**Transfer Credit:** CSU

### **MART 455 INDIE GAME DEVELOPMENT & ENTREPRENEURSHIP**

Freelancing and independent studios as the future of creative game design. This course covers the fundamentals of starting and operating small studios, crowdfunding, investment funding, staying compliant with state and local laws, understanding contracts, marketing, and selling projects. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 3

**Hours/semester:** 48-54 Lecture; 32-36 TBA; 64-72  
 Homework

**Transfer Credit:** CSU

### **MART 695 INDEPENDENT STUDY**

Designed for students who are interested in furthering their knowledge via self-paced, individualized instruction provided in selected areas or directed study to be arranged with instructor and approved by the division dean using the Independent Study Form. Varying modes of instruction can be used -- laboratory, research, skill development, etc. For each unit earned, students are required to devote three hours per week throughout the semester. Students may take only one Independent Study course within a given discipline. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

**Units:** 0.5 - 3

**Hours/semester:** 24-162 Lab

**Transfer Credit:** CSU

