# CREATIVE MEDIA TECHNOLOGY

**Associate of Applied Science Degrees**

- Digital Film
- Digital Graphics Technology
- Game Development

**Certificates of Completion**

- Creative Media
- Commercial Photography
- Digital Audio
- Digital Graphics
- Digital Video
- Film Crew Training
- Game Design
- Graphics and Animation
- Web Design

Because we live in the age of information, there is an ever-growing need for trained specialists with a visual sophistication to design printed materials and web sites, produce videos and films, create animated scenes and characters, and participate in game design. Effective visual communication and interaction is essential in today's world.

The specializations in Film and Digital Media Arts (FDMA) have been developed in response to all of these needs. They provide a strong but versatile foundation by merging design and digital media into an exciting course of study. The offerings bring together various dynamic technologies, including game design, print media, web design, multimedia, digital photography, animation, and digital film. Because the field is extremely varied, the FDMA program offers a number of pathways:

- The Digital Film degree provides a foundation for students who are looking for professional opportunities in the areas of filmmaking, computer animation, digital video production, game design, and multimedia.
- The Digital Graphics degree emphasizes graphic design, print media, and web design, but also includes fundamentals in animation, multimedia, and digital film.
- The Game Development degree provides a foundation in game design, art, and animation technologies, including 3D modeling and sculpting, game engine technology and scripting, and asset development and management.
- The program also offers certificates in specialized areas such as commercial photography, digital audio, digital graphics, digital video, web design, graphics and animation, game design, and film-crew training.

The future is bright for graduates of the Film and Digital Media Arts program, whether they choose to enter the job market immediately or pursue a bachelor's degree. Several transfer tracks open the way for graduates of the Digital Film, Digital Graphics, and Game Development associate degree programs to continue their education at New Mexico State University or any institution of higher learning.

Employment will continue to increase for digital media specialists in advertising agencies, animation, game and film studios, web design companies, and other organizations throughout the business sector. Upon completion of one of the associate degrees, students will have designed and created a self-promotional package and professional electronic portfolio or demo reel.

High school students who are interested in a career in creative media are encouraged to take courses in art, photography, English, and mathematics. Careers in media will require a person to be able to work with computers, communicate verbally and in writing, and participate in an online environment.

Digital Film - Associate of Applied Science (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/associate-applied-science-digital-film/)

Digital Graphics Technology- Associate of Applied Science (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/digital-graphics-technology-associate-applied-science/)

Game Development - Associate of Applied Science (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/game-development-associate-of-applied-science/)

Commercial Photography - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/commercial-photography-certificate-of-completion/)

Creative Media - Certificate of Achievement (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/creative-media-certificate-completion/)

Digital Audio - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/digital-audio-certificate-completion/)

Digital Graphics - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/digital-graphics-certificate-completion/)

Digital Video - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/digital-video-certificate-completion/)

Film Crew Training - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/film-crew-training-certificate-completion/)

Game Design - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/game-design-certificate-completion/)

Graphics and Animation - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/graphics-and-animation-certificate-completion/)

Web Design - Certificate of Completion (https://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/web-design-certificate-completion/)

**FDMA 1120. Desktop Publishing**
**3 Credits (2+2P)**
This course is designed to teach introductory skills for designing and creating publications and presentations with layout software. The course will focus on graphics and typographic design, fonts, and other skills for print and web publishing.

**Learning Outcomes**
1. Demonstrate knowledge of fundamental features and navigation of desktop publishing software.
2. Combine text and images for effective communication.
3. Develop a balanced composition through use of color, contrast, and alignment.
4. Place images within a composition and wrap around text.
5. Produce documents with professional layout and typography skills.
6. Create attractive and effective designs.
7. Combine knowledge of typography, images, and design principles to produce professional print and web media.
8. Create or add to a professional design portfolio for future use.

**FDMA 1210. Digital Video Production I**
**3 Credits (2+4P)**
An introduction to digital video production. Students learn camera operation, lights and audio equipment. Hands-on production is completed in the studio and on location.
**Learning Outcomes**
1. Plan and produce a digital video project
2. Apply post-production workflow
3. Work in team and as individual to complete digital video projects.

**FDMA 1220. Introduction to Digital Video Editing**
**3 Credits (3)**
In this course, students learn the basics of the post-production process for non-linear video editing. Students work with multiple video formats and create short movies for multiple distribution platforms. Skills include media management and professional terminology. Sections on the Main Campus will be restricted to CMI students.
**Learning Outcomes**
1. Define concepts related to digital video editing.
2. Use non-linear video editing software for editing a short film
3. Enhance storytelling through the use of continuity, timing, cutaways, intercutting, compositing, transitioning, jump cutting, montaging and animating.
4. Use text, titles, transitions, video effects, sound effects, dialogue, and visual assets for digital video editing.

**FDMA 1360. Web Design I**
**3 Credits (2+2P)**
This course provides an introduction to web development techniques, theory, and design. Students will learn HTML, CSS application, and strategies for effective site navigation and design, along with industry standard web editing software to develop various websites. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** ARTS 1520 OR FDMA 1515.
**Learning Outcomes**
1. Acquire and utilize web design terminology.
2. Create basic web pages using HTML.
3. Demonstrate how to use industry-standard, web editing software.
4. Design professional pages that are easy to navigate and quick to load.
5. Develop a basic comprehension of CSS
6. Prepare and export a variety of graphics to be used online.
7. Compare and contrast designing for web media vs. print media.

8. Analyze the importance of web presence in today's business/social climate

**FDMA 1410. Audio Production I**
**3 Credits (2+2P)**
Students will learn about and apply essential tools and techniques in analog and digital audio production. Topics include acoustic science, microphones, recording and mixing techniques, analog and digital audio hardware and software, including, multi-track, computer-based recording and editing systems. Restricted to: Community Colleges only. May be repeated up to 3 credits.
**Learning Outcomes**
1. Apply tools and techniques in analog and digital audio production
2. Illustrate the fundamentals of acoustic science.
3. Model professional behavior used in audio recording.

**FDMA 1415. Principles of Sound**
**3 Credits (2+2P)**
The creation of a professional quality original media soundtrack is possible for relatively low production/post production cost. This class is designed to give the student and overview of creating sound for a variety of digital media. Topics include acoustic principles, sound design, audio hardware, recording techniques; and editing, processing, and multi-track mixing, using software applications. Restricted to: Community Colleges only.
**Prerequisite(s)/Corequisite(s):** FDMA 1220.
**Learning Outcomes**
1. Record and edit wild sound effects and synced dialogue
2. Discover, upload, and edit on-linemusic, ambience and sound effect loops
3. Implement audio design theories
4. Create an aesthetic soundtrack which incorporates multiple elements and dimensions
5. Design, edit, process, mix and master a synced multi-track soundtrack
6. Demonstrate capable use of digital audio production and post-production workflow
7. Produce short audio projects which meet media industry technical standards

**FDMA 1510. Introduction to 3D Animation**
**3 Credits (3)**
This course provides an overview of 3D animation production processes. Students will be introduced to basic story development and the creation of computer-generated assets and cinematic sequences. The course will survey specialty areas of digital animation and various software and techniques applied in entertainment and information media. Students will review and critique other's animation, as well as plan and produce original animation for review by classmates and as part of a CGI demo reel.
**Prerequisite(s):** FDMA 2382 or FDMA 2381 or consent of instructor.
**Learning Outcomes**
1. Demonstrate a fundamental understanding of 3D animation history and principles.
2. Analyze animation work of other artists.
3. Appropriately utilize the various media technologies for digital 3D animation.
4. Demonstrate and apply basic techniques of digital 3D animation.
5. Demonstrate and apply basic processes of creating CGI for a narrative. 6 .Apply some basic strategies for developing and creating a story visually, and create original animations.

6. Present original animations to instructor and classmates for critique.

7. Create a CGI demo reel of work completed during the course.

### FDMA 1515. Introduction to Digital Image Editing - Photoshop
**3 Credits (2+2P)**
In this course, students will learn how to use the tools in Adobe Photoshop to create new images and edit existing images. Tools used will include selections, layers, and adjustments, among other pixel editing tools. Basic composition and output will be emphasized in all projects. May be repeated for a maximum of 6 credits.
**Learning Outcomes**
1. Make and refine selections
2. Adjust color and tone in an image
3. Eliminate unwanted objects in an image
4. Apply layers to organize and create effects
5. Create brushes, styles and vector shapes
6. Prepare image for print and screen output
7. Apply masking and layers to non-destructively edit an image
8. Effectively utilize blending modes and layer styles 1
9. Apply adjustment layers 1
10. Apply design principles including typography

### FDMA 1531. Evolution of Electronic Games
**3 Credits (2+2P)**
Focus on the evolution of video games and how they have shaped mainstream entertainment. May be repeated up to 6 credits.
**Learning Outcomes**
1. Analyze the historical development of video games from early arcade machines to modern consoles and mobile platforms.
2. Evaluate the impact of technological advancements on video game design, graphics, and gameplay mechanics.
3. Identify key milestones, influential games, creators, and major companies that shaped the video game industry.
4. Examine how video games have influenced and been influenced by other forms of media and popular culture.
5. Assess the social, cultural, and economic impacts of video games as they evolved into a mainstream form of entertainment.
6. Discuss current trends and predict future directions in video game development and the gaming industry.

### FDMA 1535. Introduction to Illustrator
**3 Credits (2+2P)**
Students receive instruction on vector graphics creation using vector illustration software. The students will create professional-quality artwork for print publishing and multimedia graphics. Instruction includes creating and manipulating basic shapes, drawing with the pen tool, using various brushes, working with type and preparing graphics for web, print, and digital publication. May be repeated for a maximum of 6 credits.
**Learning Outcomes**
1. Apply a variety of shape blending options
2. Create and apply new gradients
3. Apply Gradient Meshes and Envelopes
4. Create symbols, brushes and vector shapes
5. Apply Pathfinder and other effects
6. Effectively utilize the pen tool to draw and edit shapes
7. Effectively utilize Vector tools
8. Prepare image for print and screen output
9. Apply clipping masks 1

10. Prepare image for use in another program 1
11. Apply design principles including typography

### FDMA 1536. Advanced Computer Illustration
**3 Credits (2+2P)**
Advanced techniques in 2D vector drawing and fundamentals of 3D illustration for use in print, web, and multimedia applications. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1535.
**Learning Outcomes**
1. Demonstrate proficiency in using advanced features of Illustrator.
2. Identify and create different illustrator/art styles using advanced techniques for shading, perspective, light, reflection.
3. Produce high quality digital imagery incorporating basic principles of composition.
4. Create a series of illustrations demonstrating a design competency in layout foundation and illustrative moods or client/project based solutions.
5. Create high quality portfolio pieces that demonstrate an advanced knowledge of design, composition and Illustrator techniques.
6. The students will produce finished printed portfolio pieces demonstrating a comprehensive knowledge of typographical, design, illustrative and layout skills

### FDMA 1545. Introduction to Photography & Digital Imaging
**3 Credits (2+2P)**
This course is a study of the principles and techniques of photography using digital equipment, and discusses how digital cameras, imaging editing, and technology have changed the world of photography. Students will learn about studies in resolution, lighting, software, editing, printing, and web applications. They will gain fundamental knowledge in the rapidly expanding technology of photography and imaging, and be able to incorporate the knowledge into all areas of digital graphics.
**Learning Outcomes**
1. Exhibit proper usage of the principles and techniques of photography using digital equipment.
2. Utilize features and techniques of a digital camera with proper use of lenses, settings, and flashes.
3. Create photo collections that represent proper use of technical skills.
4. Demonstrate proficiency in planning, lighting, capturing, and distributing photographic projects which show ability to create photographs artistically and to tell a story or express an idea.
5. Utilize appropriate software to create original projects.
6. Demonstrate knowledge in post-production of photos as to sizing, sampling, resolution, and exporting.
7. Produce original projects which respect intellectual property of others.
8. Create a digital portfolio of work completed during the course.

### FDMA 1555. Introduction to the Creative Media Industry
**3 Credits (3)**
This class is an introductory course for students who are beginning their understanding of Media and how it affects them and our society. It offers a broad-stroked view of the entire industry including Marketing, Production, History, Jobs, Design, Architecture, New Media Literacy, and industry standards. Students will listen to experts in the field, get involved in open discussions about the industry and use new information to complete hands-on individual & group assignments.

**Learning Outcomes**
1. The basic philosophies and methods that guide people working in the Creative Media industry.
2. Knowledge of a wide variety of different jobs, qualifications and paradigms used in the industry.
3. Marketing, Production, Budgets, History, New Media, Inspiration and other aspects of the industry.
4. An accurate view of the Creative Media field.

**FDMA 1630. Principles of Design**
**3 Credits (2+2P)**
This course will explore how we see and use visuals to communicate information. Students will develop critical thinking skills in applying concepts of basic design principles. Students will apply the concepts with hands-on and analysis assignments. These concepts will then be applied to design for advertising, print, digital media, and web design. The business of design will also be covered with emphasis on client relations and networking Restricted to: Community Colleges only. Prerequisite(s): FDMA 1535
**Learning Outcomes**
1. Practice Creativity
2. Plan a Design project
3. Demonstrate the effective use of Emphasis Contrast
4. Demonstrate the effective use of Balance and Alignment
5. Demonstrate the effective use of Harmony and Repetition
6. Demonstrate the effective use of Flow, Movement, and Rhythm
7. Demonstrate the effective use of Simplicity and Economy
8. Effectively apply basic color theory
9. Demonstrate the effective use of Typography principles 1
10. Apply design principles to Screen Print Projects 1
11. Develop client relations

**FDMA 1710. 2D Animation**
**3 Credits (2+2P)**
Concepts and techniques in storyboarding and creating interactive 2D animations for web, multimedia and video.
**Prerequisite(s):** FDMA 1535.
**Learning Outcomes**
1. Be able to correctly storyboard an animation scene
2. Define and demonstrate basic animation terminology and principles.
3. Produce a complete hand drawn animation using industry standard software and processes.

**FDMA 1715. 2-D Compositing & FX**
**3 Credits (3)**
This course will familiarize students with the process of compositing and creating special effects for animation using industry standard software. Students will learn how to assemble an animated scene and use advanced 3D lighting, spacing, and digital effects to achieve a dynamic, professionally rendered look.
**Prerequisite:** FDMA 2710.
**Learning Outcomes**
1. The goal of this class is for students to learn how to use advanced compositing and effects tools in order to achieve a more dynamic and professional visual look for their animations or motion graphics.
2. By the end of the class, you should be proficient animation compositors that can assemble and synthesize a basic animation into a rendered, visually sophisticated piece.

3. Students who pass this class will have a basic to intermediate knowledge of Adobe After Effects

**FDMA 1720. 3-D Character Design**
**3 Credits (2+4P)**
Focus on designing a character and then taking that design and building it in 3D using intermediate modeling techniques. May be repeated for a maximum of 6 credits.
**Prerequisite(s):** FDMA 1510 or FDMA 2530.
**Learning Outcomes**
1. Translate concept art into a low and high resolution 3D model using proper modeling techniques
2. Use Polygon modeling techniques to create a 3D character
3. Layout UVs and utilize Adobe Photoshop to texture a model.

**FDMA 1996. Selected Topics**
**1-4 Credits (1-4)**
Specific titles to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits. Restricted to Community Colleges campuses only.
**Learning Outcomes**
1. Varies

**FDMA 2120. Film Crew I/ Introduction to Film and Media Workflow**
**9 Credits (9)**
An introduction to the film industry. This class teaches film production processes, film crew hierarchy, film production set-safety and etiquette and provides hands-on training in industry standard film production equipment. Students complete the semester by participating as a below-the-line crew member on a short film. Restricted to: Community Colleges only.
**Learning Outcomes**
1. Explain film production processes; Interpret call sheets and deal memos, model basic on-set protocols and professional behavior
2. Assist producers and directors in completing a professional film project
3. Work effectively in production crew positions in a group environment.
4. Recognize and articulate specific film production structure, from original concept to final release

**FDMA 2125. Film Crew II**
**9 Credits (9)**
The second course designed to train students to become working members of film crews. It will be taught by working film professionals. Content will be lecture and hands-on. Students complete the semester by working as part of an actual film crew as below-the-line and above-the-line crew members. Restricted to: Community Colleges only.
**Prerequisite(s):** FDMA 2120.
**Learning Outcomes**
1. Understand film production processes used to produce a film
2. Manage craft area job functions
3. Model on-set protocols and professional behaviors
4. Assist producers and directors in completing a professional film project

**FDMA 2144. Pre-production Management**
**3 Credits (2+2P)**
Pre-production planning paperwork breakdowns, budgeting, and scheduling; taking a project from start to finish from a producers standpoint.
**Prerequisite(s):** FDMA 1210.

**Learning Outcomes**

1. Demonstrate proficiency in various areas of pre-production
2. Create a script breakdown, budget, production and post-production schedule, and management plan and timeline that are technically sound.
3. Use features of pre-production and project management software, to foresee and plan the pre-production, production, and post-production stages of a project
4. Demonstrate understanding of the processes of supporting and managing a project, through the pre-production, production, and post-production stages to completion
5. Work collaboratively and communicate effectively with the pre-production and management teams to produce the desired finished project.

**FDMA 2150. Desktop Publishing II**
**3 Credits (2+2P)**
This class will enhance and build upon student layout/design skills developed in the Introduction to Desktop Publishing course, incorporating intermediate to advanced concepts in typography and layout design. Upon completion of this course, students will be able to use page layout software to prepare a variety of documents for presentation and critique, including newsletters, instructional flyers, and other complex design/typographic pieces May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1120.
**Learning Outcomes**

1. Build upon knowledge of design and design terminology.
2. Exhibit intermediate to advanced design principles using type, layout, and color.
3. Demonstrate skill in intermediate to advanced concepts and features of page layout software.
4. Exhibit knowledge of styles, tables, images and clipping paths and interactive documents as well as printing preparations and procedures.
5. Create layouts for print, web, and other media that demonstrate an intermediate to advanced knowledge in typography and layout design.
6. Format and produce newsletters and instructional flyers, as well as larger, complex projects such as packaging mechanicals, multiple master page documents, and books.
7. Assess works of graphic design for quality and effectiveness.
8. Utilize produced material to create or add to a design portfolio for future use.

**FDMA 2210. Digital Video Production II**
**3 Credits (2+2P)**
Advanced techniques of the tools and application of professional film making. May be repeated for a maximum of 6 credits.
**Prerequisite:** FDMA 1210.
**Learning Outcomes**

1. Demonstrate the ability to produce and manage a video project: Produce a script, storyboard, and production schedule for a video project designed for a specific audience.
2. Demonstrate proficiency in producing quality digital video footage and audio tracks: Shoot to the script and storyboard using a variety of camera and lighting techniques; Produce a finished complex sound track including narration, music, and sound effect.
3. Demonstrate ability to produce and edit a professional quality video project: Integrate all production aspects of the project including

video, audio, graphics, titles, transitions, and effects. Guide the project through the final production stages.
4. Develop competency in digital video distribution using various formats and techniques: Distribute project in various formats which could include DVD and web posting.

**FDMA 2241. Advanced Camera Techniques**
**3 Credits (2+2P)**
Professional camera techniques and training for electronic news gathering and studio filmmaking. Utilizes high-end handheld shooting techniques, cranes, dollies, and steadicam training. May be repeated for a maximum of 6 credits.
**Prerequisite(s):** FDMA 1210.
**Learning Outcomes**

1. Students knowledge of high-end video camera operation and features.
2. Students must know all the working features of the video production equipment being used during the course in order to achieve the desired footage as required by the instructor.
3. Demonstrate proficiency in producing quality digital video footage.
4. Individuals must acquire the knowledge of different shooting styles in different productions situations and use those acquired skills to produce the appropriate video footage.
5. Using the proper lighting in different on location shooting styles.
6. Skill of each individual utilizing the usage of high-end camera equipment such as dollies, cranes and Steadicam.
7. Each individual must work as a team player to create professional style video footage.

**FDMA 2285. Digital Video Production and Editing II**
**3 Credits (2+2P)**
Advanced features of digital video, audio/music, and titling production software. Included are color correction, vector scopes, motion effects, and advanced editing techniques used by filmmakers. Restricted to Community Colleges campuses only. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1220.
**Learning Outcomes**

1. intermediate to advanced video editing create short films and training videos, create TV quality commercials, direct a news broadcast, and work as a mentor to students on digital media equipment

**FDMA 2287. Digital Design Studio**
**1-3 Credits**
A design studio environment in which students obtain real-world experience while providing service to college and non-profit associations with faculty supervision using a variety of media. Can be used with permission to fulfill cooperative requirement. May be repeated for a maximum of 6 credits.
**Prerequisite(s):** FDMA 1630 or ARTS 1712.
**Learning Outcomes**

1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

**FDMA 2310. History of Cinema I**
**3 Credits (3)**
This course surveys the history of cinema - investigating the process by which the original "cinema of attractions" evolved into a globally dominant form of visual storytelling. We will explore the development of cinema both as an art form and as an industry, and consider the technological, economic, cultural factors, as well as many key international movements that helped shape it. Restricted to: G-CMI, DFM, ANVE majors.
**Learning Outcomes**
1. Gain a greater appreciation for the history of cinema
2. Develop knowledge of the key eras in the history of U.S. cinema
3. Learn the characteristics of major movements in international cinema
4. Understand the various elements that go into telling a story in cinema: screenplay, narrative devices, director, producer, talent, production design, cinematography, editing, sound design
5. Learn how major genres in U.S. cinema have evolved in the past 100+ years
6. Gain a basic understanding of the operations and organization of the Hollywood film industry, from the studio system until today
7. Gain an awareness of the shifts inthe film industry that present new opportunities for independent filmmakers
8. Understand the importance of learning about the history of cinema to the process of becoming a filmmaker
9. Strengthen public speaking skills

**FDMA 2311. History of Animation**
**3 Credits (3)**
Explores the history of Animation as an art form and industry through readings, screenings, lecture and periodic guest speakers. Restricted to: G-CMI, ANVE, DFM majors. Restricted to Las Cruces campus only.
**Learning Outcomes**
1. To expand your knowledge of the history of animation and its evolution to the modern day.
2. To expand your ability to view animation critically and to understand its early connections to cartooning as well as its ongoing cultural presence and relevance.
3. To expand your comfort with accessing information and completing assignments both online and independently. Canvas will be utilized for many of our readings and for some response assignments.

**FDMA 2312. History of Media Design**
**3 Credits (3)**
An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.
**Learning Outcomes**
1. Introduction to visual communication: Defines design media; Discuss universal design principles and strengthen student basic design skills.
2. Historical technological development and design: Prehistoric communication; Beginnings of alphabet and written language; Movable type and the printing press; Industrial revolution; Digital Age; Designers and Trends; Personalities and their influence and contributions
3. Identify design styles and discuss the relevance of how design influences: Idea generation; Trend sources; Influences or appropriation; Propaganda and advertising.

**FDMA 2325. Advanced Photoshop**
**3 Credits (2+2P)**
This course expands on the Photoshop skill set to develop proficiency with selections, masking, channels, filters, color correction, painting tools, vector integration, video, special effects, and compositing techniques. The focus is on the core image-editing tools of Photoshop that can be universally applied to photography, print, film or the web. The material is covered in production-oriented projects and students develop work suitable for portfolios. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1515.
**Learning Outcomes**
1. Create effects using advanced blending techniques
2. Effectively utilize advanced masking techniques
3. Refine Selections with advanced techniques
4. Assess Adjust color in an image
5. Utilize advanced photo enhancement techniques
6. Alter images using Photoshop painting techniques
7. Create brush presets
8. Create vector elements with paths
9. Add manipulate type on a path 1
10. Create advanced special effects 1
11. Apply vanishing point warping 1
12. Create a video clip 1
13. Apply color adjustments to video

**FDMA 2326. Digital Photography and Imaging II**
**3 Credits (2+2P)**
Provide understanding and skills needed for advanced digital capture, editing, optimizing and manipulating photographic images for print, web and multimedia applications. The course will prepare students to make more advanced technical and more refined aesthetic decisions relative to specific photographic applications. Restricted to: Alamogordo campus, Carlsbad campus, Dona Ana campus.
**Prerequisite(s):** FDMA 1545.
**Learning Outcomes**
1. Apply proper exposure techniques.
2. Practice effective composition techniques.
3. Demonstrate knowledge of working with Camera RAW files.
4. Demonstrate proper image adjustment and correction techniques.
5. Successfully apply the basics of HDR digital photography.
6. Apply techniques for modifying light.

**FDMA 2360. Web Design II**
**3 Credits (2+2P)**
In this course, students will refine their skills in coding and web graphic design as well as be introduced to methods in constructing sites that adhere to the standards of responsive web design. Students will expand their knowledge of HTML and CSS using a code editor, and they will both analyze existing websites and also construct an interactive website. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1360.
**Learning Outcomes**
1. Plan and produce web design mockups.
2. Demonstrate a proficiency in HTML/CSS coding.
3. Utilize basic web scripts.
4. Integrate animation into web design.
5. Create fully functional websites using one or more web editors.
6. Make a website "live."

7. Evaluate web designs for aesthetics and functionality.

8. Demonstrate the utilization of responsive design.

### FDMA 2365. Web Design for Small Business
**3 Credits (2+2P)**
Technology and techniques for designing and building a web presence for small business. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** FDMA 1360.
**Learning Outcomes**
1. Learning advanced tools and techniques for creating and maintaining complex Business web sites. We will be using CSS, PHP, HTML, Photoshop, and Wordpress.
2. design a complete and fully functional online web business.
3. understand and develop a plan to better manage a web store/business.
4. review basic design guidelines in preparing a variety of web applications for business.
5. develop technical skills in using various web based solutions.
6. reinforce your knowledge of web design software.
7. introduce alternate sources of data, communication and financial solutions.

### FDMA 2381. Storyboarding
**3 Credits (3)**
Examines effective writing principles to create storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Further, the purpose of this course is to introduce students to the principles of visual storytelling—in film--through the use of the storyboard. In other words, to show how storyboards are critical "architectural component" of the filmmaking process, used as a blueprint (or guide) to communicate the complex elemnts of a film story. Crosslisted with: ENGL 2381. Restricted to: DFM,ANVE, G-CMI majors. Restricted to Las Cruces campus only.
**Learning Outcomes**
1. Learn to conceive and draw original images.
2. Learn to use images to tell a story.
3. Design, develop, and order images (shots) into storyboarded scenes.
4. Understand how storyboarded sequences are a tool in the process of filmmaking.
5. Understand how the storyboard image is translated from the written page.
6. Build scenes from the scripted sequences into a storyboard.

### FDMA 2382. Principles of Story Across the Media
**3 Credits (3)**
The purpose of this course is to help students understand the basic elements of narrative structure (e.g. character, dramatic conflict, theme, etc.) and how these elements may be used effectively in media expression. Crosslisted with: ENGL 2382. Restricted to: G-CMI, DFM, ANVE majors. Restricted to Las Cruces campus only.
**Learning Outcomes**
1. Identify the elements of storytelling in scripted text or improvised performance
2. Understand how these elements work together across different media
3. Apply these elements of storytelling in original work
4. Appreciate and master these elements for independent or collaborative work

### FDMA 2410. Audio Production II
**3 Credits (2+2P)**
Students will use skills developed in the Audio Production I course to produce audio projects utilizing a variety of analog and digital audio hardware and software, including continued use of multi-track, computer-based recording and editing systems, as well as exploring more advanced audio techniques and concepts. Restricted to: Community Colleges only. May be repeated up to 6 credits.
**Prerequisite:** FDMA 1410.
**Learning Outcomes**
1. Apply analog and digital audio hardware and software in audio recording.
2. Apply common professional set-up practices of audio production facilities.
3. Produce audio projects, sync sound recordings, and audio dialogue replacement (ADR) demonstrating technical expertise.
4. Perform an audio mix and master for a final professional product.
5. Analyze and compare existing audio productions for quality.

### FDMA 2510. Introduction to Sound Design for Film
**3 Credits (3)**
This couse is an introduction to the principles, techniques and applications of sound design and film scoring. Students learn how sound affects storytelling in a film, examine the role of sound from the script to screen, and the professional process of creating a soundtrack. Students learn how to use sound equipment in a production environment and execute basic techniques used to develop a soundtrack. Crosslisted with: FDMA 1415.
**Prerequisite(s)/Corequisite(s):** FDMA 2382. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
**Learning Outcomes**
1. Compare the properties and propagation of sound and importance of sound to the storytelling aspect of filmmaking
2. Learn the process of designing a soundtrack for film and recording live audio dialogue for use in post-production editing.
3. Learn methods of capturing sound including live audio recording, dialogue recording, foley, orchestration and audio dialogue replacement
4. Design a soundtrack for motion media project.

### FDMA 2520. Introduction to Cinematography
**3 Credits (3)**
The Director of Photography (or Cinematographer), in close collaboration with the Director and Production Designer, helps determine the look of a film. This course is designed to intorduce students to the technical and aesthetic fundamentals of creating, developing, and collaborating on the visual elements of storytelling, using camera framing, lensing, and lighting fundamentals such as shadows, light and color. May be repeated up to 6 credits. only. Prerequisite(s)/Corequisite(s): FDMA 2382 (Las Cruces Campus) or FDMA 1210 (Community College Campus(es)
**Learning Outcomes**
1. Define and explain the fundamental concepts of cinematography, such as exposure, lighting solutions, and color temperature.
2. Understand how cinematography brings the Director's vision to reality.
3. Demonstrate proficiency in plotting and executing interior and exterior lighting solutions.

### FDMA 2530. Introduction to 3D Modeling
**3 Credits (3)**

This course will introduce 3D modeling methods and current practices. Students will learn preliminary and detailed modeling techniques using industry standard software. Methods will emphasize formal and functional aspects of modeling as they apply to mechanical, organic, and sculpted topology for application in animation, games, and information media. May be repeated for a maximum of 6 credits.

**Learning Outcomes**

1. Identify the role of a 3D modeler in a production pipeline within various fields of digital animation.
2. Apply techniques in modeling mechanical and organic objects.
3. Utilize tools available in professional 3D modeling software.
4. Create simple animations and renders.
5. Present original animations to instructor and classmates for critique.
6. Create a demo reel of work completed during the course.

**FDMA 2535. Digital Illustration Techniques**
**3 Credits (3)**
Introductory course examining traditional artistic expressions and translating visual art experiences into a digital art medium to enhance visual storytelling. Students acquire basic principles of drawing and painting through hands-on experience manipulating tonal value, composition, form development, light and shadow, color theory, rendering realism, and graphic design. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.

**Learning Outcomes**

1. Be familiar with the CMI computer system, facilities, equipment and policies.
2. Appropriately utilize the various media technologies available at CMI for digital illustration.
3. Understand the different roles and areas of digital illustration.
4. Understand and apply some basic techniques of digital illustration.
5. Understand and apply some basic processes of creating pleasing images based on knowledge of traditional art principles.
6. Begin to apply some basic strategies for developing and creating aesthetically pleasing images.

**FDMA 2570. Creative Media Studio**
**3 Credits (2+2P)**
A studio environment where students specialize in creating film-festival quality and portfolio-ready projects under the supervision of faculty. May be repeated for a maximum of 6 credits.
**Prerequisite(s):** FDMA 1210 and FDMA 1220 or FDMA 2530.

**Learning Outcomes**

1. Students will work together to create portfolio-quality work in a studio environment.
2. Through classroom discussion and reporting the students will collaborate to produce a professional quality "vertical slice" game concept within a defined timeline and financial budget

**FDMA 2710. Beginning 2-D Animation**
**3 Credits (3)**
Students will learn the basics of digital 2D animation by working through a variety of exercises, creating an original storyboard, and animating five or more shots utilizing industry standard software. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.

**Learning Outcomes**

1. The student will demonstrate an overall knowledge of computers as a tool of the animation artist and be able to produce simple animations using the techniques learned in class.
2. Use major software tools with ease

3. Manage time lines through key frames
4. Build storyboards
5. Demonstrate knowledge of 2-D and animation terminology
6. Produce actions, set environments and constraints for 2-D animation
7. Render full animation.

**FDMA 2715. Special Effects**
**3 Credits (2+4P)**
Creating advanced virtual special effects for both rigid and soft bodies. Using MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tensions, and use collision events to drive texture. Study of integrating computer-generated images with real-life video and audio.
**Prerequisite(s):** FDMA 2530 or FDMA 2765.

**FDMA 2720. 3D Animation**
**3 Credits (3)**
Overview of the essentials and principles of 3D animation; creative methods for using industry standard tools to produce the illusion of movement for storytelling and creating 3D effects. Topics include, keyframe and curve animation, kinematics, cycle animation, camera animation, deformers, dynamics and constraints.
**Prerequisite:** FDMA 1510, FDMA 2710 or consent of instructor.

**Learning Outcomes**

1. Clearly describe the role of an animator in cinema, gaming and related fields.
2. Recognize leading animators and their methods.
3. Demonstrate knowledge of advances in contemporary animation.
4. Utilize current industry standard animation tools.
5. Apply fundamental animation processes and techniques

**FDMA 2725. Rigging for 3D Animation**
**3 Credits (3)**
This course will introduce principles and practices of current 3D animation rigging. Students will develop fundamental methods necessary to create character rigs. Students will learn aesthetic, technical, and optimization concepts as they apply to organic and mechanical designs. Topics will include: hierarchies, constraints, deformation rigging, skeleton creation, skinning, forward and inverse kinematics, controls, body and facial rigging. Restricted to: DFM, ANVE majors.
**Prerequisite(s):** FDMA 1510.

**Learning Outcomes**

1. Understand what Rigging is and the role it plays in the world of cinema and video games.
2. Be familiar with industry professionals and their techniques and approaches to rigging.
3. Understand and be able to apply the fundamentals of rigging to industry standard applications.
4. Demonstrate ability to rig basic to intermediate machines, bipeds and quadrapeds

**FDMA 2730. Advanced Character Animation**
**3 Credits (2+2P)**
Focus on complex rigging techniques as well as utilizing advanced animation functions to blend multiple animations into complex animations. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.
**Prerequisite(s):** FDMA 2530.

### Learning Outcomes

1. Create skeletal riggings for use with a 3D model
2. Attach riggings to a 3D model using Smooth and rigid binding and refine the bindings so that they are properly weighted
3. Animate a 3D model using skeletal and vertex animation techniques

### FDMA 2745. Light, Shade, Render
**3 Credits (3)**

This course will explore the theory and practice of 3D lighting and rendering methodologies. Techniques covered will implement cameras, lighting sources, textures, surface-mapping and algorithmic rendering to produce stylized and photo realistic images. Topics covered will include direct and indirect lighting, shaders that simulate physical substances and effects, rendering multiple passes and simulating physical lens effects. Restricted to: DFM,ANVE majors. Restricted to Las Cruces campus only.
**Prerequisite:** FDMA 1510 OR FDMA 2530, or Consent of Instructor.

### Learning Outcomes

1. Understand the role of lighting and surfacing to tell a story.
2. Be familiar with leading lighting artist and their approaches.
3. Utilize the software implemented in the entertainment industry.
4. Understand and apply fundamental lighting and rendering techniques.
5. Demonstrate ability to create successfully rendered scenes from concept through production.

### FDMA 2750. Digital Sculpting
**3 Credits (3)**

Introduce students to the 3D Sculpting programs which are the industry standard sculpting programs. Students will learn how to create complex high polygon sculpts and normal maps and transfer the models into 3D studio Max and Autodesk Maya. May be repeated up to 6 credits. Restricted to: Community Colleges only.
**Prerequisite(s):** FDMA 2530.

### Learning Outcomes

1. Demonstrate communication skills through written critiques and explanations
2. Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding
3. Demonstrate a working knowledge of Zbrush's interface
4. Demonstrate a working knowledge of Zpheres and how they are best used to create sculpts
5. Demonstrate a working knowledge of painting a mesh using Spotlight
6. Demonstrate a working knowledge of retopologizing and exporting the mesh
7. Demonstrate a working knowledge of integrating the full Zbrush pipeline into Unity and Unreal

### FDMA 2755. Drawing for Animation
**3 Credits (3)**

Introductory study of the human and animal form in relation to animation. Students learn fundamentals and exaggeration of the figure, as related to proportion, rhythm, mechanics, and motion. Areas of focus are: basic form, proportion, shape, contour, gesture, anatomy, portraiture, perspective, clothing effects and drawing from observation. Restricted to: CMT,DFM,ANVE majors.

### Learning Outcomes

1. Students will have an opportunity to gain hands on experience using industry standard state of the art animation software.
2. Understand what the basics of drawing the human form.

3. Have a general understanding of human anatomy as needed for the artist.
4. Be able to design the human form from imagination.

### FDMA 2770. Critical Game Studies
**3 Credits (2+2P)**

Focus on creating a complete design document utilizing techniques and standards used in the industry today. May be repeated up to 6 credits.

### Learning Outcomes

1. Develop a comprehensive game design document that adheres to industry standards, incorporating elements such as gameplay mechanics, narrative structure, and user interface design.
2. Critically analyze existing game design documents to identify strengths, weaknesses, and areas for improvement.
3. Apply advanced game design techniques to create innovative and engaging game concepts.
4. Evaluate the ethical and cultural implications of game design choices and their impact on diverse audiences.
5. Collaborate effectively in a team setting to produce a cohesive and well-documented game design project.
6. Present and defend game design concepts and documents to peers and industry professionals, demonstrating clear communication and critical thinking skills.

### FDMA 2775. Game Tools and Techniques
**3 Credits (2+2P)**

Focus on the different engines and gaming technologies that power the games of today. May be repeated for a maximum of 6 credits.
**Prerequisite(s):** FDMA 2770.

### Learning Outcomes

1. Students will develop rapid prototyping techniques.
2. Through classroom exercises the students will gain competency in industry-standard game creation engines and tools, and learn to work together in groups to create rapid prototypes.
3. This includes creating art, sound and music, and creating basic scripts within an engine.

### FDMA 2785. Level Design Concepts
**3 Credits (2+2P)**

Focus on the design and creation of video game levels. Dealing with the challenges and pitfalls of different video game genres. May be repeated for a maximum of 6 credits. Prerequisite(s): FDMA 2770

### Learning Outcomes

1. Students will develop level design skills.
2. Through classroom exercises the students will gain a comfortable competency with designing levels both on paper and digitally.
3. This includes creating first person shooter levels, third person levels, multiplayer level design, and more.

### FDMA 2993. Workshops (Advanced Photography)
**1 Credit (1)**

This is a series of 1-credit workshops offering specialized and intense advanced skill training and upgrading applications of photography for commercial purposes and training in photographic skills and styles presented by a variety of professional lecturers. May be repeated up to 7 credits. Restricted to Community Colleges only.
**Prerequisite(s):** FDMA 1545.

### Learning Outcomes

1. Varies

**FDMA 2994. Portfolio Design & Development**
**1-3 Credits**
Personalized design and creation of the student's professional portfolio including hard-copy, demo reel, and online. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Community Colleges campuses only.
**Learning Outcomes**
  1. Varies

**FDMA 2995. Film Crew Cooperative Experience**
**3-6 Credits (3-6)**
Industry production experience in specific craft areas for film crew technicians who have successfully completed two semesters of FTTP. Restricted to: Dona Ana campus, Carlsbad campus.
**Prerequisite(s):** FDMA 2125.
**Learning Outcomes**
  1. Varies

**FDMA 2996. Special Topics**
**1-4 Credits**
Specific topics to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.
**Learning Outcomes**
  1. Varies

**FDMA 2997. Independent Study**
**1-3 Credits**
Individual studies directed by consenting faculty with prior approval of department head. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.
**Prerequisite(s):** Minimum GPA of 3.0 and sophomore standing.
**Learning Outcomes**
  1. Varies

**FDMA 2998. Internship**
**1-3 Credits**
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Internships may be paid or unpaid. Students are supervised/evaluated by both the employer and the instructor. May be repeated up to 9 credits. Consent of Instructor required. Graded: S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only. Consent of instructor required.
**Learning Outcomes**
  1. Varies

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