

CREATIVE MEDIA TECHNOLOGY

Associate of Applied Science Degrees

- Creative Media Technology
- Digital Graphics Technology
- Game Development

Certificates of Completion - Important information about the educational debt, earnings, and completion rates of students who attend these certificate programs (excluding Creative Media) can be found on the following <https://dacc.nmsu.edu/gainfulemployment/>.

- Creative Media
- 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 program in Creative Media Technology has been developed in response to all of these needs. It provides a strong but versatile foundation by merging design and digital media into an exciting course of study. The program brings together various dynamic technologies, including print media, web design, multimedia, digital photography, animation, and digital film. Because the field is extremely varied, the CMT program offers a number of pathways:

- The Creative Media 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 creative media, 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 CMT 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 Creative Media and Digital Graphics 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 and film studios, web design companies, and other organizations throughout the business sector. Upon completion of one of the associate degrees will also 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. Courses as well as careers in media will require a person to be able to work at computers, communicate verbally and in writing, and participate in an online environment.

Creative Media Technology - Associate of Applied Science (<http://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/creative-media-technology-associate-applied-science>)

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

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

Creative Media - Certificate of Completion (<http://catalogs.nmsu.edu/dona-ana/academic-career-programs/creative-media-technology/creative-media-certificate-completion>)

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

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

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

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

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

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

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

CMT 100. Introduction to Visual Communications

3 Credits

Overview of the process of crafting a digital product from conception to final. Incorporates basic principles of art and design, typography, layout, color and imagery, logos and advertising basics. May be repeated up to 3 credits. Restricted to Community Colleges campuses only.

CMT 108. Introduction to Media Technologies

1-3 Credits (1-3)

Introduction to various media technologies. May be repeated up to 12 credits. Restricted to Community Colleges campuses only.

CMT 110. Introduction to Web Design

1 Credit

Basics of creating simple web sites for personal use.

CMT 115. Digital Photography and Imaging I

3 Credits (2+2P)

Principles and techniques of photography using digital equipment with an emphasis on lighting, focus, and composition.

CMT 120. Introduction to Creative Media

3 Credits (2+2P)

Exploration and discovery of the creative processes through art, music, theater, narrative, and other avenues.

CMT 126. Film Crew Training I

9 Credits

This course was designed in collaboration with the NM IATSE Local 480 union and the NM Film Office and focuses on providing hands-on training for students wishing to work on film crews. The course will offer an overview of the primary below-the-line craft areas of film production. Restricted to: Community Colleges only.

CMT 130. Introduction to Web Design

3 Credits (2+2P)

Introduction to web development techniques, theory, and design. Incorporates HTML and industry-standard web editing software in developing various web sites. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): ART 161 OR CMT 145.

CMT 135. Introduction to 3D Computer Animation

3 Credits (2+4P)

Learning to work in a 3D environment. Introduction to the basics of modeling, animation, dynamics, and rendering. Working with polygons, NURBS and subdivisions, and editing in multiple interfaces. May be repeated for a maximum of 6 credits.

CMT 140. Print Media I

3 Credits (2+2P)

Creation and design of publications and presentation materials using page layout software. May be repeated for a maximum of 6 credits.

CMT 142. Computer Illustration

3 Credits (2+2P)

Preparation of digital graphics with a vector or draw program for use in print, web, video, animations, and multimedia. May be repeated for a maximum of 6 credits.

CMT 145. Image Processing I

3 Credits (2+2P)

Design and creation of digital graphics using a raster or bitmap program for use in print, multimedia, video, animation and web. May be repeated for a maximum of 6 credits.

CMT 150. 2D Animation

3 Credits (2+2P)

Concepts and techniques in storyboarding and creating interactive 2D animations for web, multimedia and video.

Prerequisites: CMT 142.

CMT 151. 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.

CMT 155. 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. May be repeated up to 18 credits. Restricted to Community Colleges campuses only.

CMT 156. Film Crew Training II

9 Credits

The purpose of this course is to provide applied training in a specific film production crew craft area, in which a student has decided to specialize. The various craft areas include but are not limited to, Art Dept., Grip, Electric, Sound, Production Office, Script Supervision, Props, Set Dressing, Locations, Special Effects, Hair/Makeup, Wardrobe, Production Assistant/Set Operations. Restricted to: Community Colleges only.

Prerequisite(s): CMT 126.

CMT 160. Modeling and Animation

3 Credits (2+2P)

Building on student's knowledge of 2D animation, covers modeling, animating objects and scenes in a 3D environment using various camera and lighting effects. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.

CMT 165. Writing and Storyboarding

3 Credits (2+2P)

Learning good writing principles to create storyboards and scripts that communicate the overall picture of the project, timing, scene complexity, emotion, and resource requirements.

Prerequisite: CMT 135 or CMT 160.

CMT 170. History of Film: A Global Perspective

3 Credits

Explores the history of cinema from the earliest 19th century developments to the present digital video revolution. Offers students a broader base of understanding of the tools and methodologies used in the craft.

CMT 175. 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: CMT 135 or CMT 160.

CMT 180. Design Principles

3 Credits (2+2P)

Techniques and theories of design principles, including layout foundations, logo building, type, color, and story-boarding and their application to print, web, animation and video. Restricted to: Community Colleges only.

Prerequisite(s): CMT 142 or CMT 146.

CMT 182. Environmental Modeling, Shading and Lighting

3 Credits (2+4P)

Modeling design techniques to create natural and architectural environments to be used for animated films and gaming. Study of various lighting techniques, shading and shadowing.

Prerequisite: CMT 135 or CMT 160.

CMT 185. 3D Shading and Lighting Techniques**3 Credits (2+4P)**

Study of various global, scene and character lighting techniques, shading and shadowing, and creating atmospheres and reflections that bring computer generated 3D scenes to life. Examines environmental and studio lighting to bring real life experience into the digital production process.

Prerequisite: CMT 135 or CMT 160.

CMT 190. Digital Video Production I**3 Credits (2+4P)**

A hands-on study of the tools and techniques used to produce the independent video. Through the production of various short projects, the student explores how the ideas of the writer/director are translated into a visual story. May be repeated for a maximum of 6 credits.

CMT 195. Digital Video Editing I**3 Credits (2+2P)**

A study of the basic tools and techniques of non-linear digital video editing. May be repeated for a maximum of 6 credits.

CMT 200. 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 for up to 6 credits. Restricted to: Community Colleges only.

CMT 205. Cinematography**3 Credits (2+2P)**

Theory and techniques of visual design in cinematography and the aesthetics of lighting. May be repeated for a maximum of 6 credits. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 190.

CMT 206. Principles of Sound**3 Credits (2+2P)**

Study of soundtrack design theory, and the use of audio editing software that is compatible with media editing software to create soundtracks for different visual media. Pre/ Restricted to: Community Colleges only.

Corequisite(s): CMT 195.

CMT 210. 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: CMT 190.

CMT 215. Digital Video 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. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 195.

CMT 216. 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): CMT 115.

CMT 220. Environmental Scene Design**3 Credits (2+4P)**

Modeling design techniques used to create environments and scenes for use in animated films and games. Investigation of both natural and architectural environments to be recreated in the virtual world.

Prerequisite: CMT 135 or CMT 160.

CMT 221. 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. S/U Grading (S/U, Audit). Restricted to Community Colleges campuses only.

Prerequisite(s): Consent of instructor.

CMT 222. 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: CMT 190.

CMT 223. Media Production Services**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: CMT 180 or ART 163.

CMT 225. Anatomical Character Design**3 Credits (2+4P)**

Focus on building anatomy-based 3D characters. Advanced study in NURBS, subdivisions, and polygon modeling techniques used to create fully functional and realist models. May be repeated for a maximum of 6 credits.

Prerequisite: CMT 175.

CMT 226. 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): CMT 156.

CMT 227. 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): CMT 160.

CMT 228. 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: CMT 200

CMT 229. 3D Digital Sculpting**3 Credits**

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): CMT 160.

CMT 230. Web Design II**3 Credits (2+2P)**

Creating and managing well-designed, organized web sites using HTML and web development software. May be repeated for a maximum of 6 credits. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 130.

CMT 235. Web Design for Small Businesses**3 Credits (2+2P)**

Technology and techniques for designing and building a web presence for small business. May be repeated for a maximum of 6 credits. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 130.

CMT 236. Digital Audio Fundamentals**3 Credits (2+2P)**

Advanced digital audio post production and recording techniques using current entertainment industry-standard software and hardware.

Restricted to: Community Colleges only.

CMT 240. Print Media II**3 Credits (2+2P)**

Refining of technical design skills using advanced features of page layout software in preparing a variety of business-related documents. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 140.

CMT 242. 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): CMT 142.

CMT 245. Image Processing II**3 Credits (2+2P)**

Advanced techniques in editing and manipulation of raster images for digital graphics for print, multimedia and web. May be repeated up to 6 credits. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 145.

CMT 247. Production Audio**3 Credits (2+2P)**

Essential tools and techniques in: field and studio recording and mixing, environmental assessment, film set protocol, various microphones, audio documentation, wildlines, ambient audio. Restricted to: Community Colleges only.

Prerequisite(s): CMT 190 and CMT 236.

CMT 248. Music Production and Mastering**3 Credits (2+2P)**

Introduction to fundamental tools and techniques in music production and mastering. Including: microphones and microphone techniques, live and studio recording, editing, mixing, and introduction to mastering digital audio. Restricted to: Community Colleges only.

Prerequisite(s): CMT 206 and CMT 236.

CMT 251. Gaming Platform and Standards**3 Credits (2+2P)**

Focus on the different gaming platforms and their corresponding gaming demographics and standards. May be repeated up to 6 credits. Restricted to: CMT majors. Restricted to Community Colleges campuses only.

Prerequisite(s): CMT 200.

CMT 252. 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: CMT 200.

CMT 253. History of Animation**3 Credits**

Exploration of animation as art form and industry. Material spans from the roots of animation before film technology to modern commercial and artistic animated productions. Restricted to Community Colleges campuses only.

CMT 254. History of Media Design**3 Credits**

An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.

CMT 255. Special Topics**1-4 Credits**

Specific topics to be announced in the Schedule of Classes. May be repeated for a maximum of 18 credits.

CMT 256. Typography**3 Credits**

Foundation in typography with an emphasis on history of typography and the practical application and impact of font choices for print, web, animation and video. Deals with studies in font or letter construction and font choices focusing on design, application, incorporation, and visual impact. Restricted to: Community Colleges only.

Prerequisite(s): CMT 142.

CMT 258. 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: CMT 190.

CMT 260. 3D 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: CMT 160 or CMT 225.

CMT 265. Personal Character Development**3 Credits (2+4P)**

Focus on the development of personal character(s), from sketch to render. Develop complete biographies of character, then build, skin and animate with as many personal attributes as possible.

Prerequisite: CMT 225.

CMT 275. Advanced Web Techniques**3 Credits (2+2P)**

Creating and managing complex web sites using advanced techniques and tools. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.

Prerequisites: CMT 145 and CMT 230.

CMT 276. Advanced Photography Workshops**1 Credit**

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): CMT 115.

CMT 285. Print Media III**3 Credits (2+2P)**

Refinement of skills needed to prepare a variety of documents for print and the service bureau. May be repeated for a maximum of 6 credits.

Prerequisite: CMT 140 or CMT 240.

CMT 290. Advanced 3d Animation Workshop A**3 Credits (2+4P)**

Program capstone. Students will utilize the skills learned in the program to produce their final animation. Group integrated projects are strongly recommended to emulate a real-work animation studio environment. May be repeated for a maximum of 9 credits.

Prerequisite: consent of instructor.

Corequisite: CMT 291.

CMT 291. Advanced 3d Animation Workshop B**3 Credits (2+4P)**

Program capstone. Students will utilize the skills learned in the program to produce their final animation. Group integrated projects are strongly recommended to emulate a real-work animation studio environment. May be repeated for a maximum of 9 credits.

Prerequisite: consent of instructor.

Corequisite: CMT 290.

CMT 292. 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.

Prerequisites: CMT 190 and CMT 195 or CMT 160.

CMT 295. Professional Portfolio Design and 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.

Prerequisite(s): Consent of instructor.

CMT 298. 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.

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