

# ANIMATION (ANMA1-CE)

## **ANMA1-CE 9004 Concept Art and Character Design (0 Credits)**

The entertainment industry needs artists to create believable and memorable characters for movies, television, games, comics, and toys. Creating successful characters requires knowledge of art and design as well as meticulous attention to detail. In this introductory course, build a fundamental knowledge of character design—including sketching, drawing, developing textures, and using materials that aid in the process—and apply these skills to bring a complete character to life. Through in-class exercises, draw and develop your own characters and understand key poses to convey robust physical and emotional range.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9005 Digital Media Production Standards (0 Credits)**

This course provides thorough, hands-on instruction in the proper creation and application of digital media content and the tools necessary for the production of media content for multiplatform use. Learn key concepts and fundamental design principles in web technologies and video editing. Capture engaging photo and video footage to create effective multimedia experiences in postproduction. Topics include digital imaging basics, the production process, industry technology, industry trends, formats, standards, codecs, audio, video, resolution, input, output, SD, HD, 4K, recording formats, devices, sample rates, bit depth, aspect ratio, and processing. The course demystifies terminology and jargon, clarifies the relationships between software packages, and teaches the tools to meet the expectations of the ever-evolving digital industry.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9006 Introduction to Creative Coding in Processing (0 Credits)**

Since the early days of computer science, artists and designers have been interested in using the power of computer programming to create artwork and customized tools. In the last decade, programming languages have made huge advances toward this goal, with many different coding tools and frameworks specifically designed to be used by creative minds. Gain a thorough understanding of the basic concept of programming using processing, with the ultimate goal of creating visualizations and algorithmic animations from scratch, as stand-alone artwork or for any kind of scripting that you may face in your workflow. Gain valuable insights into how algorithms can be a powerful means to generate complex visual compositions otherwise impossible to produce manually. This hands-on production course includes weekly assignments and a final project.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9009 Animation Principles (0 Credits)**

Gain a foundation for all forms of animation in the digital production environment. Learn the fundamental concepts of visual storytelling through moving imagery. Explore the elements of complex motion and performance structure in order to create a believable animated performance—whether conveyed by a character, an inanimate object, typography, or a texture element. Hone your keyframing and tangent control skills in the Graph Editor in 2D and 3D software environments.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9021 3D Animation and Modeling (0 Credits)**

Maya, the computer animation industry's leading software, has the capacity to create diverse imagery for animated films, including the popular franchises *Cars* and *Toy Story*, as well as entire characters for live action films, as in *Avatar* and *Alice in Wonderland*. Through hands-on practice, explore Maya's many features and acquire a broad understanding of the 3D tools essential for film, television, and design projects. Acquire a working knowledge of this industry-standard 3D software through a series of short exercises focusing on core fundamentals such as modeling, lighting, texturing, animation, and rendering.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9022 Animation Studio (0 Credits)**

In a collaborative environment, integrate your knowledge and skills in animation to create an individual short. Seasoned professionals mentor you through the stages of creating a project. Topics include story development, animatics, production schedules, sound effects, execution of 2D and/or 3D graphic elements, live action, motion graphics, and typography to allow you to reach your creative goal. Output techniques and compressions are addressed toward the end of the course to introduce you to the different methods of delivery, including web, broadcast, mobile, and/or DVD.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9055 2D Animation: Drawing, Cutout, and Stop Motion (0 Credits)**

By telling a compelling story or mesmerizing audiences with abstract motion, animation can infuse a sequence of inert images with the illusion of life. Learn the basics of animation as you create three 30-second videos in traditional hand-drawn, cutout, and stop-motion animation. Learn how to bring characters to life using established principles of squash and stretch, key framing, and basic timing techniques.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

## **ANMA1-CE 9071 3D Studio Max (0 Credits)**

Create eye-catching 3D images with 3D Studio Max, the software used by studios and emerging artists to produce top-selling games, vibrant commercials, realistic architectural renderings, and award-winning visual effects. Grasp the fundamentals of 3D production through hands-on exercises. Practice 3D modeling, animation, rendering, and effects. Explore features in this robust modeling and animation program, such as advanced shaders, dynamic simulation, particle systems, radiosity, global illumination, and a customizable user interface. Animators, Web designers, game developers, artists, designers, and architects learn to create elaborate models and compelling 3D environments.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9100 Character Animation and Modeling (0 Credits)**

Comprised of traditional animation principles and digital technology, this course is for individuals with a strong understanding of Maya and a desire to breathe life into 3D objects. Use Maya to create characters that come alive with a believable sense of motion. Technical topics include modeling for character animation; building and rigging skeletons for forward and inverse kinematics; skinning and using painted weights, deformers, and blendshapes for accurate muscle deformation and facial expressions; and using constraints and expressions to create a digital "puppet." Aesthetic topics include some sculpture and attention to style, proportion, realistic expressive movement, and emotion.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9106 Digital Character Sculpting and Design (3.5 Credits)**

Digital sculpting enables 3D artists and designers to explore form quickly and intuitively, allowing them to shape ideas as if they were manipulating clay. In this hands-on studio course, study the fundamentals of digital character sculpting using Pixologic ZBrush, a software application renowned for its versatile digital sculpting capabilities. Focusing on a small selection of sculpting tools, you will learn to create organic, hard-surface, and stylized 3D forms while working to construct appealing character designs. Fine art practices such as cartooning, caricature, and illustration will be examined, alongside basic principles of artistic anatomy and figurative design. Also, explore ideas through digital design sketches that you will develop later into a refined project aligned with your own personal goals and interests. This course is open to beginners interested in learning ZBrush or in developing digital characters for toy design, illustration, graphic design, 3D animation, interactive video games, or the fine arts.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9108 Designing Infographics (2.5 Credits)**

Information graphics—also known as "infographics"—are visual representations of information and data designed to engage audiences while delivering efficient communications. They surround us every day in the form of maps, graphs, and diagrams that serve to communicate to and guide us. These visualizations are represented by simple pie charts, complex maps, and visuals that detail data over time. Infographics are used in nearly every industry, including journalism, entertainment, education, marketing, and business. Focus on merging data, technology, and design to convey exciting, engaging, and informative imagery. Gather data, identify the "story" points, and use digital design tools to create infographics for target audiences.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9604 Art of Animation and VFX (0 Credits)**

Animation and visual effects blend art and technology. Through lectures and discussions, discover the art and craft behind the illusions created with animation and visual effects. Learn about the tools and techniques used by digital artists. Acquire a comprehensive understanding of the industries that make use of animation and visual effects, such as filmmaking, television, video game production, and scientific visualization. Analyze examples of animation and special effects to gain a greater awareness of the design elements incorporated into such works.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9665 Advanced Digital Production (0 Credits)**

If you are interested in developing project work for your portfolio, then expand your knowledge of Adobe Photoshop, After Effects, Flash, video editing software, digital photography, and video by using these tools in unconventional ways. In this project-based course, explore classic animation, filmmaking techniques, and genres modified for the digital age. Projects may include, but are not limited to, a stop-motion animated public service announcement; a 360-degree camera movie integrating photography, digital filmmaking, and digital cell animation; a Saul Bass-inspired title sequence; and a genre-bending movie trailer based on an existing film.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9675 Storyboarding and Animatics (0 Credits)**

Storyboarding and animatics are essential for planning a production, and they are necessary skills in the film, VFX, and animation industries. By using a series of sketches to establish key frames and continuity, storyboard scenes from classic films to learn vocabulary, iconography, and editing. Understand how to plan and visualize a project and to create shot-by-shot storyboards of it; whether a sample of a feature film, a commercial, a video game, or animation; to lay out a ground plan for production. By the end of the course, construct a 15-second animatic using Photoshop and After Effects.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9690 Interactive Environment Design Using Unity 3D (0 Credits)**

Unity 3D is an extremely powerful, professional game engine that has revolutionized the interactive industry. This development platform allows artists to create interactive 3D experiences such as training simulations, visualizations, and kiosk displays for industries as diverse as education, medicine, architecture, and entertainment. The multiplatform capabilities allow projects to be exported for the web, iOS, Android, consoles, and beyond. Explore the history, elements, principles, design, development, and theory of virtual environments. Through hands-on study, prototype an environment, import 2D and 3D assets, create textures, and add lighting and sound. Then, complete a unique interactive "walk-through" a virtual environment exported to the web and to iOS using Unity 3D.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes

**ANMA1-CE 9691 Video Game Design Intensive (16.5 Credits)**

This intensive, game design course is designed for those who want to develop a conceptual understanding of game design and to acquire practical experience in the design and the development of games. While much of the commercial gaming industry is focused exclusively on entertainment, game creation and play also serve as powerful vehicles for learning, exploration, collaboration, and expression. In this course, which is led by an interdisciplinary team of digital media design experts, work in collaboration to study, design, and create interactive digital games.

As game design is at the core of this intensive, you engage with digital asset creation and prototyping. At the course's conclusion, you will have a range of skills that prepares you for potential employment within the digital gaming industry in game design, game production, and game analysis, as well as transferable skills that are relevant to broader fields. No 3D modeling, programming, or computer science background is necessary—just a passion for games and a desire to become involved in creating them. Game designers and developers, current working professionals in 2D/3D art or engineering positions, and those seeking relevant skills to propel them into the serious game industry are ideally suited for this intensive course.

**Grading:** SPS Non-Credit Graded

**Repeatable for additional credit:** Yes