SCHOOL OF ANIMATION AND MOTION

Animation

ANIM 190 Survey of Animation: Professional Pathways (5 Credits)
Unlocking the pathways of animation, students begin their journeys toward a professional career. Immersed in the animation process, students gain an overview of both 2D and 3D production workflows, resulting in the creation of their first film.
Attributes: Studio Elective Requirement

ANIM 202 Core Principles of 2D Animation (5 Credits)
Emerging from the minds of animators, characters transform into moving pieces of art within a 2D world. Students explore the basic principles of animation, with an emphasis on analysis of actions, to develop an understanding of character performance. Combining fundamental drawing techniques with 2D animation methods, students create original moving sequences.
Prerequisite(s): ANIM 190.
Attributes: Studio Elective Requirement

ANIM 223 Historical Adventures in Cinematic Animation (5 Credits)
From the first cartoons to blockbuster films, students focus on the history and aesthetics of animation with references to related arts. In this course, students explore a wide range of commercial and experimental works produced throughout the world, such as live-action cinema, puppetry and comics.
Prerequisite(s): ANIM 190.

ANIM 253 Core Principles of 3D Character Animation (5 Credits)
To really bring 3D characters to life, animators must understand the way their creations should move. Students learn to establish this believability by exploring the 12 principles of 3D animation and humanoid body mechanics. Students then apply this study to the creation of character designs and basic rigs, generating a natural performance in a short animated film.
Prerequisite(s): ANIM 190.
Attributes: Studio Elective Requirement

ANIM 272 2D Animation: Character Set-up and Pipeline Creation (5 Credits)
To compose a consistent and unique narrative, animators follow a step-by-step storytelling process. Students explore the industry-standard tools of 2D animation used for efficient solutions in today's digital character animation pipeline. Students assess both the aesthetic and technical aspects of character animation with a major emphasis on streamlining the animation process for production.
Prerequisite(s): ANIM 202.
Attributes: Studio Elective Requirement

ANIM 275 Core Principles of Animated Storytelling and Concept Development (5 Credits)
Animators tell stories through engaging visuals and thematic conceptual design. Focusing on the development of mood boards, style frames and color scripts, students generate projects through visual story-building techniques. Incorporating concept development and screen design skills into the production process, students devise compelling visuals to accompany their stories.
Prerequisite(s): ANIM 190.
Attributes: Studio Elective Requirement

ANIM 303 3D Character Animation: Performance Essentials (5 Credits)
The most memorable characters have unforgettable personalities and a rich inner dialogue. Through prop interaction, facial expressions and body posture, students learn to convey clear attitudes in animated performances. Students also explore shot composition, staging and more intricate body mechanics to create believability in their animated pieces.
Prerequisite(s): ANIM 253 or ANIM 252.
Attributes: Studio Elective Requirement

ANIM 307 Stop Motion I (5 Credits)
In this introductory stop motion course, students learn how to build a simple biped character and animate it in a number of motion tests. Students become familiar with the use of camera, lights and capturing software and are exposed to a wide range of stop motion styles to encourage personal aesthetic exploration.
Prerequisite(s): FILM 100; ANIM 190; MOME 105; VFX 101 or VSFX 101.
Attributes: Studio Elective Requirement

ANIM 313 Collaborative Experiences: 3D Production Pipeline (5 Credits)
Professional animators must be able to work well in a team environment and stick to production schedules. Using the 3D animation pipeline, students explore necessary roles, build their collaboration skills and learn effective time-management methods. Through cooperative communication and efficient oversight, students guide their original animated short film to on-time completion.
Prerequisite(s): ANIM 303 or ANIM 333.
Attributes: Studio Elective Requirement

ANIM 315 Story and Concept: Narrative Principles for Animation (5 Credits)
Through laughter, tears or wonder, the narrative to any compelling story must move the audience. In this course, students compile key story elements into creative narratives that express mood, emotion and subtext. Incorporating the principles of story and character creation, students develop strategies to compose captivating themes using devices such as symbolism and visual metaphors.
Prerequisite(s): ANIM 275 or ANIM 270.
Attributes: Studio Elective Requirement

ANIM 318 Stop Motion II (5 Credits)
Building on skills learned in Stop Motion I, students explore more advanced stop motion and clay animation production techniques. Topics include foam/latex build-up models, a survey of background construction techniques, basic casting, and further study in lighting and F/X. The course emphasizes art direction and project development.
Prerequisite(s): ANIM 307 or ANIM 218.
Attributes: Studio Elective Requirement

ANIM 323 3D Character Animation: Expressive Character Acting (5 Credits)
Exceptional animated characters can convey rich emotional content and storytelling through performance alone. Continuing the exploration of body mechanics and acting, students utilize humanoid rigs to generate expressive, highly-polished character performances. Students also employ exaggerated animation techniques and the use of props to extend their animated performance opportunities.
Prerequisite(s): ANIM 303 or ANIM 333.
Attributes: Studio Elective Requirement

ANIM 325 Story and Concept: Visual Design and World Building (5 Credits)
Setting, environment and imagery are all important details when creating an animated world. Through extensive visual research and art direction, students invest meaning into immersive and believable worlds with emphasis on mood, tone and stylization.
Prerequisite(s): ANIM 275 or ANIM 270.
Attributes: Studio Elective Requirement

ANIM 332 2D Animation: Character Performance Essentials (5 Credits)
Creating dynamic and engaging scenes, students generate expressive character performances using pantomime and dialogue-driven techniques. Building upon the principles of animation, students utilize creative tools to develop character movements, facial expressions and emotional subtext that lend depth to their performances.
Prerequisite(s): ANIM 272 or ANIM 304.
Attributes: Studio Elective Requirement

ANIM 335 Story and Concept: Animation Character and Creature Design (5 Credits)
Monsters and critters and creatures, oh my! Students apply the fundamental practices of visual development for character and creature design, utilizing shapes, color schemes and moods to produce expressive personalities. These original characters and creatures become an integral component in students' unique animated narratives.
Prerequisite(s): ANIM 275 or ANIM 270.
Attributes: Studio Elective Requirement

ANIM 345 Story and Concept: Storyboarding and Staging (5 Credits)
The art of storyboarding and staging, including emotion and movement, are key to the animation process. Expanding on their knowledge of cinematography, students break down ideas and scenes sequentially to promote effective visual storytelling and expand their film lexicon. Students learn effective timing and pacing, as well as staging elements and employing various camera techniques to enhance comedic or dramatic tension within the narrative.
Prerequisite(s): ANIM 275 or ANIM 270.
Attributes: Studio Elective Requirement

ANIM 352 2D Animation Effects: Mastering the Elements (5 Credits)
From billowing smoke to flowing water, students explore the creation and use of 2D digital effects to enhance visual storytelling and heighten the production value of animated films. Through solid design and application of animation principles, students interpret the motion and properties of physical phenomena to add personality and emotional impact to animated effects.
Prerequisite(s): ANIM 272 or ANIM 304.
Attributes: Studio Elective Requirement

ANIM 352 2-D Effects Animation (5 Credits)
Applying the motion attributes of observable physical phenomena, including those which are both organic figurative and inorganic non-figurative, students create 2-D animation effects such as fire, water and smoke in traditional pencil-drawn animations.
Prerequisite(s): ANIM 312 or minimum score of 3 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

ANIM 353 3D Character Animation: Creatures and Quadrupeds (5 Credits)
Animating non-humanoid characters comes with unique challenges and opportunities. Students explore new concepts of body mechanics and performance utilizing a wide range of creature types and behaviors. Students conceptualize and create complex, believable animalistic performances for their animated pieces.
Prerequisite(s): ANIM 303 or ANIM 333.
Attributes: Studio Elective Requirement

ANIM 365 Story and Concept: Seeding the Narrative (5 Credits)
Ideas come to life as students combine lively characters, breathtaking worlds and engrossing narratives into animated stories. Focusing on timeless themes, students pull inspiration from a variety of genres. Students create written premises, outlines, treatments, fictional biographies and character histories, becoming the absolute authorities on their unique stories and the worlds in which they live.
Prerequisite(s): ANIM 315.
Attributes: Studio Elective Requirement

ANIM 372 Collaborative Experiences: 2D Production Pipeline (5 Credits)
From screenplay through post-production, students are immersed in the collaborative 2D animation pipeline. In this course, students utilize a variety of animation tools and techniques to tell a compelling story and experience the diverse roles within the animation industry through storyboarding, editing and completion of a short animated film.
Prerequisite(s): ANIM 272.
Attributes: Studio Elective Requirement

ANIM 382 2D Animation: Digital Production and Compositing (5 Credits)
Animators are masters in taking visual elements and transforming them into imaginative, animated scenes. Students advance their production skills and dive deeper into the methods of character setup and world building. Focus is placed on compositing techniques for seamlessly integrating characters into detailed environments.
Prerequisite(s): ANIM 272 or ANIM 304.
Attributes: Studio Elective Requirement

ANIM 383 3D Character Animation: Performance Through Dialogue (5 Credits)
The complex art of animating speech requires more than the movement of lips. Using their knowledge of character movement and mechanics, students learn the art of animating dialogue. Through nuanced facial animation and precise lip sync, students craft up-close, dialogue-driven performances that convey attitude, subtext and motivation.
Prerequisite(s): ANIM 323 or ANIM 322.
Attributes: Studio Elective Requirement

ANIM 385 Story and Concept: Concept Development for Animation (5 Credits)
Cultivating original ideas for the production of short animated films, students demonstrate their knowledge of storytelling, world building, character development and staging. Students develop a pitch-ready concept package, including mood boards, character and environment designs, color scripts, style frames and an industry-standard treatment. Students pitch specific elements from their concept package and explore strategies for preparing visual development for production.
Prerequisite(s): ANIM 315 and ANIM 325 and (ANIM 335 or ANIM 330) and ANIM 345 and ANIM 365.
Attributes: Studio Elective Requirement

ANIM 390 Animation Business and Professional Practices (5 Credits)
Through topics such as studio hierarchy, production bidding, media distribution and professional growth, students explore important aspects of the animation business. Students prepare for professional situations through the creation of individual demo reels, résumés, websites and portfolios in relation to their career goals.
Prerequisite(s): ANIM 313; ANIM 325; ANIM 335; ANIM 330; ANIM 349; VFX 350; ANIM 351; ANIM 359; VFX 359; ANIM 321; ANIM 372 or ANIM 312.
Attributes: Business-focused elective; Studio Elective Requirement

ANIM 395 Collaborative Experiences in Animation (5 Credits)
From 2D animation to revolutionary 3D films, every animated project requires large teams of artists to produce amazing visuals. Students experience the dynamic workflow of a collaborative project to produce an appealing and finished animated film.
Prerequisite(s): ANIM 289; VFX 316; ANIM 280; ANIM 313; ANIM 315; ANIM 372 or ANIM 312.
Attributes: Business-focused elective; Studio Elective Requirement

ANIM 402 2D Animation: Expressive Character Acting (5 Credits)
Take a deep dive into the personalities and behaviors of animated characters. In this course, students add nuance to their characters through classic animation research and testing techniques. Students produce expressive character acting under professional work dynamics and deadlines.
Prerequisite(s): ANIM 332 and ANIM 352 and (ANIM 372 or ANIM 312) and (ANIM 382 or ANIM 442).
Attributes: Studio Elective Requirement

ANIM 408 Animated Capstone Film: Preproduction (5 Credits)
From the creation of a production schedule to previsualization, students complete the preproduction phase of their animated films. Students establish milestones and deadlines, character posing and shot blocking to prepare for the production stage of a short film.
Prerequisite(s): ANIM 395; VFX 395 or SANM 560.
Attributes: Studio Elective Requirement

ANIM 423 3D Character Animation: Believability and Nuance (5 Credits)
Creating realistic 3D characters requires the development of subtle gestures and strong poses that fit a character's personality. Students generate believability in their animation through production-level shot work and nuanced performances. Students also learn to navigate the pressures associated with team-based productions and adhere to essential deadlines while progressing from blocking through final animation.
Prerequisite(s): (ANIM 383 or ANIM 322) and ANIM 408.
Attributes: Studio Elective Requirement

ANIM 426 Experimental Animation (5 Credits)
Students develop a unique sense of style and material as alternatives to formulated classical animation or digital graphics. Students employ imagery, objects and different media types to develop a method and use of media appropriate to the subject.
Prerequisite(s): ANIM 275 or ANIM 270.
Attributes: Studio Elective Requirement

ANIM 434 Location Research for Animation (5 Credits)
Location research and adaption lead to informed animation art direction and inspired storytelling. Through immersion in the visual culture of the course location, students develop concept art that informs the aesthetic of an animated film.
Prerequisite(s): ANIM 313; ANIM 342; ANIM 312 or ANIM 372.
Attributes: Studio Elective Requirement

ANIM 448 Animated Capstone Film: Production (5 Credits)
From final character animation to an assembly edit, animators synthesize technical and aesthetic skills to bring stories to life. Through an exploration of the production process, students continue to develop content delivery, story and technical mastery. Emphasis is placed on the identification and utilization of individual strengths in the context of a production environment.
Prerequisite(s): ANIM 408.
Attributes: Studio Elective Requirement

ANIM 479 Undergraduate Internship (5 Credits)
Internships offer students valuable opportunities to work in a professional environment and gain firsthand experience to help them prepare for careers. In an approved internship setting, a student typically spends one quarter working with an on-site professional supervisor and a faculty internship supervisor to achieve specific goals and objectives related to the program of study.

ANIM 488 Animated Capstone Film: Postproduction (5 Credits)
That's a wrap. Through the exploration of the postproduction process, students focus on their senior short including final edit and rendering, updating reel and self-promotional support items and researching self-promotional opportunities. This course represents the third phase of the senior project and the final phase of animation career preparation.
Prerequisite(s): ANIM 448.
Attributes: Business-focused elective; Studio Elective Requirement

ANIM 495 Special Topics in Animation (5 Credits)
The selected topics of this course vary from quarter to quarter. Each seminar focuses on various issues in the field of animation and allows the advanced student an opportunity to pursue individual or collaborative projects related to the subject of the course.

ANIM 501 Animation Context and History (5 Credits)
This course focuses on the history and aesthetics of animation, with references to related arts such as live-action cinema, puppetry and comics. Screenings include a wide range of commercial and experimental work produced throughout the world. Students create small projects and written work pertaining to course topics.

ANIM 504 Character Animation Basics (5 Credits)
Students explore the principles of animation to develop an understanding of the physics of character motion utilizing both traditional and CG techniques. Emphasis is placed on the analysis of action and demonstrating weight and timing appropriate to an introductory graduate level.
Attributes: Studio Elective Requirement

ANIM 704 2D Animation Essentials: Concept to Production (5 Credits)
From the early days of animation history to the animated masterpieces of the present day, 2D animators bring hand-drawn characters to life on screen. In this course, students research and apply specialized animation tools and techniques to create 2D animated characters, including sequences, assets and rigs, suitable for professional production environments.
Attributes: Studio Elective Requirement

ANIM 705 Animation Aesthetics and Practice (5 Credits)
This course introduces students to the diversity of animation aesthetics, from industrial processes to individual personal expression. Through class screenings, students examine historical contexts and methods as well as contemporary trends and techniques. Oral and written critique is supported by practical investigation into personal aesthetic choice.
Attributes: Studio Elective Requirement

ANIM 709 Computer-generated Modeling and Design (5 Credits)
This course focuses on the issues of modeling surfaces appropriate for use in animation. In particular, students are expected to develop an understanding of modeling organic forms.
Attributes: Studio Elective Requirement

ANIM 713 Drawing in Motion (5 Credits)
This course explores observational figurative motion through life drawing and animal study. Emphasis is placed on expressive gesture drawing to enhance fluid representation of the figure in motion.
Attributes: Studio Elective Requirement

ANIM 714 3D Cartoon Character Animation (5 Credits)
This course explores alternative techniques for creating and animating 3D cartoon characters with emphasis on exaggerated action through timing and squash and stretch. Students are encouraged to push the technical limitations of the medium to achieve familiar cartoon motion. Emphasis is placed on advanced problem-solving in 3D animation. Students are encouraged to demonstrate character appeal through applied personal aesthetics.
Prerequisite(s): ANIM 709.
Attributes: Studio Elective Requirement

ANIM 715 Character Look Development (5 Credits)
Surface and context have an interdependent relationship to the production of 3D characters. This course explores advanced texturing techniques, including use of hair and fur, to create realistic and stylized surfaces appropriate for animated characters in context.
Prerequisite(s): VSFX 708; VFX 708 or ANIM 709.
Attributes: Studio Elective Requirement

ANIM 721 Storyboarding and Previsualization (5 Credits)
This course examines a number of approaches for adaptation of story content to cinematic form, examining the styles of many films and aesthetic problem-solving particular to animation. Students learn how to transpose ideas through 2D storyboards and animatics to 3D asset creation for previsualized story reels, emphasizing deadlines, techniques and alternative methods to communicate ideas.
Attributes: Studio Elective Requirement

ANIM 724 3D Naturalistic Character Animation (5 Credits)
This course explores the background of naturalistic character movement, advancing key-frame animation techniques and use of motion-capture technology. Observational animation is prioritized with special regard to subtle gesture. Emphasis is placed on advanced problem-solving in 3D animation.
Prerequisite(s): VSFX 708; VFX 708 or ANIM 709.
Attributes: Studio Elective Requirement

ANIM 725 Environment Look Development (5 Credits)
This course emphasizes the application of industry-standard practices to create believable form and texture for animation environments. The course covers advanced topics in set creation, design and modeling with an emphasis on reference-based structures as applied to predetermined content requirements.
Prerequisite(s): VSFX 708; VFX 708 or ANIM 709.
Attributes: Studio Elective Requirement

ANIM 737 Collaborative Project (5 Credits)
Through group inception, design and animation, students complete a short animated film. From preproduction to postproduction, students employ methods and practices of contemporary animation production management.
Prerequisite(s): ANIM 705 and ANIM 709.
Attributes: Studio Elective Requirement

ANIM 750 Industry Insight: Los Angeles (5 Credits)
Students will gain exposure to industry professionals that range from high budget feature and game studios to smaller budget, independents. Students will establish networking contacts and understand what career opportunities exist to determine career objectives. The trip will be preceded by research and preparation of a portfolio package and followed with a paper summarizing the experience and listing contacts made.
Prerequisite(s): ANIM 709.

ANIM 753 Animation M.F.A. Thesis Exploration and Research (5 Credits)
Students lay the academic foundation for their areas of thesis investigation in this course. Under supervision, each student identifies their direction, conducts research for visual inspiration and begins drafting the thesis statement and paper. Work completed in this course is ultimately presented at the students' candidacy reviews.
Attributes: Studio Elective Requirement

ANIM 756 Animation Character Performance (5 Credits)
This course offers students advanced learning that combines the principles of character animation with observational techniques to create believable character performances. Students are encouraged to develop their own aesthetic. Pre-rigged models or puppets made in other courses can be used in this course.
Prerequisite(s): ANIM 709.
Attributes: Studio Elective Requirement

ANIM 759 Short Short Animation (5 Credits)
In this course, students explore the possibilities for extreme short-form animated content such as the visual gag or animated conundrum of between 15 and 30 seconds in length. Students develop and complete content intended for portable media and interstitials.
Prerequisite(s): ANIM 753.
Attributes: Studio Elective Requirement

ANIM 762 Directed Projects in Animation I: Creative Problem-solving (5 Credits)
Working closely with the professor, students define specific production goals to explore or complete an animation project of their choosing. Emphasis is on the director's conceptual, aesthetic and technical decision-making processes. Students are encouraged to share their specific areas of expertise while producing individually directed projects.
Prerequisite(s): (ANIM 709 or ANIM 713) and (MOME 719; SDGM 719 or SFDM 719) and ANIM 721.
Attributes: Studio Elective Requirement

ANIM 764 Experimental Process and Narrative (5 Credits)
This course exposes students to unorthodox approaches to animation production. Emphasis is placed on creating process driven work and exploring alternative narrative approaches.
Prerequisite(s): MOME 719; SDGM 719 or SFDM 719.
Attributes: Studio Elective Requirement

ANIM 772 Directed Projects in Animation II: Idea Resolution (5 Credits)
This course provides additional structured production opportunities for students continuing independent project development. Emphasis is on realizing personal vision through exploration of the tools of animation and further refining of production management skills.
Prerequisite(s): ANIM 762.
Attributes: Studio Elective Requirement

ANIM 775 Animation M.F.A. Thesis Visual Component Production (5 Credits)
This studio course continues the animation thesis sequence. Students begin making the visual portion of their thesis. Animation tests, character designs, storyboards, animatics and a focused thesis statement are all vital elements of this stage in thesis completion.
Prerequisite(s): ANIM 753 and minimum score of 6 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

ANIM 779F Graduate Field Internship (5 Credits)
Students in this course undertake a field assignment under the supervision of a faculty member.

ANIM 779T Graduate Teaching Internship (5 Credits)
Students in this course undertake a teaching assignment under the supervision of a faculty member.

ANIM 790 Animation M.F.A. Thesis Completion (5 Credits)
In this final course in the animation M.F.A. thesis sequence, students complete the visual components of their major thesis work. They also finalize and polish their thesis papers, incorporating all of the research and professional development conducted throughout the process.
Prerequisite(s): ANIM 775.

Motion Media Design

MOME 105 Principles of Motion Media Design (5 Credits)
From advertisements to film, motion media plays a vital role in the appearance of branding and imagery in media. In this course, students explore the key aspects of motion media, including the historical application of typography and design principles, basic compositing, animation principles, keyframing, and vector and raster asset integration.
Prerequisite(s): DIGI 130 or CMPA 110.
Attributes: Studio Elective Requirement

MOME 115 Survey of Motion Media Design (5 Credits)
Motion media design evolution began with non-narrative experimental films of the 1930s and continued through to the innovative movie titles of Saul Bass in the 1950s, MTV's birth in the 1980s, and the influence of new technologies and media artists in the 1990s and 2000s. This course surveys the history of motion media design and the individuals, companies and current trends that define the field today.

MOME 120 Concepts and Storyboards (5 Credits)
Creating concepts and explaining ideas, style and technique though storyboards are essential skills for the motion media designer. In this course students learn how to conceptualize and visualize motion graphic storyboards with digital techniques as required in the professional world.
Prerequisite(s): (DRAW 100 or FOUN 111) and (DIGI 130 or CMPA 110).
Attributes: Studio Elective Requirement

MOME 130 Motion Media Design Techniques I (5 Credits)
This interdisciplinary course trains students in the essential vocabularies and concepts of motion media design, examining a range of diverse issues of central importance to the motion media designer such as previsualization, cinematography, media theories, digital culture, new media and critical studies.
Prerequisite(s): MOME 105.
Attributes: Studio Elective Requirement

MOME 206 Motion Media Design Techniques II (5 Credits)
This course continues to build upon the knowledge of motion techniques and software. It teaches advanced motion techniques in industry-standard motion graphic software to give students the ability to realize their concepts and ideas in upper-level courses.
Prerequisite(s): MOME 130 or GRDS 348.
Attributes: Studio Elective Requirement

MOME 221 Virtual Reality for Motion Media (5 Credits)
From commercials to immersive feature film trailers to branded entertainment experiences, virtual reality is transforming digital media and providing new opportunities for motion media designers. Students in this course examine the trends, aesthetics, theory and expanding impact of interactive and immersive technologies. Employing motion media techniques, students apply this knowledge to the design and execution of virtual reality content and 360-degree production.
Prerequisite(s): MOME 105.
Attributes: Studio Elective Requirement

MOME 246 Title Design (5 Credits)
This course addresses basic historical and contemporary typographic design concepts utilized in creating simple film titles with graphic shapes, photographs and sound. Students construct graphic elements and typography for use in projects while addressing issues of motion and dynamic relationships.
Prerequisite(s): MOME 105 and MOME 115.
Attributes: Studio Elective Requirement

MOME 305 Motion Media Projection (5 Credits)
This course examines the use of projection systems to display motion media works at scales larger than the human body. Students are introduced to a range of practices in projection, from projection mapping on buildings to architectural and museum installations and projections in gallery contexts. Students are introduced to technical systems for developing and delivering large-scale projected media and apply these techniques in their own studio practice.
Prerequisite(s): MOME 206.
Attributes: Studio Elective Requirement

MOME 309 Concepts in Motion Media Design (5 Credits)
This course introduces fundamental concepts for motion graphics, including graphics and promos for television networks and film titles and logos for advertising. The focus is on design presentation and development, screen composition, graphic transitions and content.
Prerequisite(s): MOME 206.
Attributes: Studio Elective Requirement

MOME 310 Alternative Production Techniques (5 Credits)
This course explores a variety of historical techniques employed by avant-garde/experimental media artists in the creation of their time-based work. Students explore ideas of narrative form, image genres and visual language issues related to context and audience. Students create their own experimental work and improve their critical and conceptual facilities.
Prerequisite(s): MOME 115 or BCST 115.
Attributes: Studio Elective Requirement

MOME 315 Visualizing Music (5 Credits)
The fusion of motion graphics with sound design heightens visual perception and elevates emotional impact. In this course, students explore the dynamic and complex relationship between the visual and auditory senses, elevating their compositions' visual through strategic integration of sound and design. Students create a collection of synchronized works using both instrumental and vocal music.
Prerequisite(s): MOME 115.
Attributes: Studio Elective Requirement

MOME 333 Design for Motion (5 Credits)
In this elective course, students gain an advanced understanding of the design process in motion media production, through a concentrated study of the preparation of production boards across a range of styles. Students broaden their creative and technical experience though detailed exercises, studio sessions, and critiques of their design work, with the aim of producing portfolio quality production boards.
Prerequisite(s): MOME 120.
Attributes: Studio Elective Requirement

MOME 360 Motion Media Cinematography (5 Credits)
This course addresses camera operation, lenses, film stocks, filters, lighting and light measuring, as well as the art and aesthetics of cinematography. Through hands-on practice and exercises, students are introduced to the science behind lighting ratios and exposures, film stocks and emulsion tests and telecine transfers.
Prerequisite(s): MOME 120.
Attributes: Studio Elective Requirement

MOME 369 Time-based Typography (5 Credits)
This course addresses historical and contemporary typographic design concepts using film and television. Students construct graphic elements and typography for use in projects while addressing issues of motion and dynamic relationships.
Prerequisite(s): MOME 206.
Attributes: Studio Elective Requirement

MOME 390 Motion Media Design Professional Development (5 Credits)
Students are introduced to the multifaceted business of motion graphics in which they will be working. While developing a strategic framework for a portfolio, students also examine the industry structures and requirements. Issues of intellectual property, employment markets, contracts, marketing and overlap with other areas of study are considered.
Prerequisite(s): MOME 115 and MOME 206.
Attributes: Business-focused elective; Studio Elective Requirement

MOME 400 Senior Motion Media Design Project I (5 Credits)
Students develop ideas and storyboards for their senior project. They execute the preproduction phase of the project and start production that is finished in a second course.
Prerequisite(s): MOME 309 or BCST 309.
Attributes: Studio Elective Requirement

MOME 401 3D Motion Media Design (5 Credits)
This course explores the foundations of 3D environments. Modeling, textures, lighting and animating are covered with simple animations, logo and shape motion and environmental visual effects.
Prerequisite(s): BREN 200 or MOME 206.
Attributes: Studio Elective Requirement

MOME 408 Multiplatform Media Brand Packaging (5 Credits)
This course discusses historical and contemporary broadcast packages as they relate to design, marketing strategies and branding. These concepts are useful in the creation of show openings, tags, bumpers and other elements that develop network identities and broadcast entities.
Prerequisite(s): MOME 309 or BCST 309.
Attributes: Business-focused elective; Studio Elective Requirement

MOME 440 Advanced 3D Motion Media Design (5 Credits)
From films and music videos to games and apps, 3D motion media is everywhere. In this course, students acquire the advanced motion design skills necessary to generate high-quality, 3D content. Using industry-standard technology solutions, students model, texture, light, animate and track 3D motion media content for a range of entertainment applications.
Prerequisite(s): MOME 401.
Attributes: Studio Elective Requirement

MOME 448 Senior Motion Media Design Project II (5 Credits)
Students execute the postproduction phase of a project, including analysis and critique, organization and scheduling. The goal is to create a final project that showcases the student's artistic vision through his or her acquired skills.
Prerequisite(s): MOME 369 and MOME 400.
Attributes: Studio Elective Requirement

MOME 479 Undergraduate Internship (5 Credits)
Internships offer students valuable opportunities to work in a professional environment and gain firsthand experience to help them prepare for careers. In an approved internship setting, a student typically spends one quarter working with an on-site professional supervisor and a faculty internship supervisor to achieve specific goals and objectives related to the program of study.

MOME 501 Screen Design and Typography (5 Credits)
This course addresses the role of typography and design concepts applied in the field of motion media. Through a series of class projects, students develop the ability to effectively utilize the use of design principles and typographic values to address issues of motion and dynamic relationships.
Attributes: Studio Elective Requirement

MOME 502 Motion Analysis and Application (5 Credits)
This course directs students towards the successful analysis and application of advanced animation techniques and methodologies. Students gain a thorough and deep understanding of motion media techniques, as evidenced in contemporary motion design work. Students explore the impact of these techniques on their personal aesthetic through individual practice, lectures, assigned readings, class discussions and critiques.
Attributes: Studio Elective Requirement

MOME 503 Motion Media Context and Application (5 Credits)
This course explores how motion graphics developed from innovations in a variety of fields including animation, graphic design, advertising and interactive media. The aesthetics that inform contemporary motion graphics began in non-narrative experimental films, continued in the innovative movie titles of the 1950s, video art and MTV, and in new technologies of the 1990s and contemporary media art. This course surveys the history of motion graphics, the individuals, companies and current trends that define the field today.
Attributes: Studio Elective Requirement

MOME 705 Visualization and Concept Storyboarding (5 Credits)
In this course, students are expected to develop the ability to visualize various creative solutions to problems in motion media design. Students learn concept development, engage in the application of appropriate narrative and visual storytelling to those concepts, and produce storyboards that portray concepts accurately and vividly. In the creative phase of production, students are subject to traditional industry constraints, including typical production guides and guidelines.
Attributes: Studio Elective Requirement

MOME 709 Motion Media Cinematography and Editing (5 Credits)
This course introduces the foundations of filmmaking through the critical examination of historical materials. The theoretical and practical applications of the course culminate in the compilation of imagery that encompasses a variety of ideas and concepts and utilizes film and video cameras and editing techniques.
Attributes: Studio Elective Requirement

MOME 711 Advanced Motion Media Design Techniques (5 Credits)
This course gives students the skills and techniques necessary to execute their concepts into motion. Students learn how to interpret and read a storyboard for production and apply industry-standard software in their future motion graphic projects. Students receive training in all phases of motion graphic techniques and production.
Attributes: Studio Elective Requirement

MOME 712 Motion Media Projection for Public Environments (5 Credits)
Innovative projection techniques, when integrated with motion media prowess, artfully manipulate perceptions of space in physical environments. Using interactive controls, students create complex and responsive physical installations for objects, screens and architectural spaces.
Prerequisite(s): MOME 705.
Attributes: Studio Elective Requirement

MOME 715 Visual Design for Music Composition (5 Credits)
From animated sequences to visual effects, a synchronous relationship between kinetic and auditory design is paramount to the creation of compelling content. Through research and analysis of influential designers and compositions, students elevate their practice by applying advanced synchronization strategies that fuse sound with motion graphics and create innovative motion design productions.
Prerequisite(s): MOME 705.
Attributes: Studio Elective Requirement

MOME 719 Media Theory and Application (5 Credits)
This course integrates historical studies, contemporary art and visual theory and practice in the study of early and current thought in media theory. Students are expected to analyze and conceptualize the mass media through active discussion in the classroom, research projects and independent analyses in order to stimulate critical thinking that can be applied to film and digital media. Theoretical methods and models are utilized to inform and develop student practice.

MOME 720 Concept and Design Development for Motion Media (5 Credits)
Successful motion media designers create production boards in a range of styles to meet the parameters of creative briefs. In this course, students sharpen their creative and technical expertise through a focused study of industry practices and advanced design strategies to produce compelling storyboards and visual concepts.
Prerequisite(s): MOME 705.
Attributes: Studio Elective Requirement

MOME 721 Studio Business Practice (5 Credits)
Through articles, case studies, practical assignments and projects, students learn the business side of the media industry including the essentials for running a business or project. Students learn about accounting, budgets, insurance, copyright and intellectual property law, management, and human resources. The course culminates with a project in which students explain how they would run an assigned media job that requires use of all the areas of business covered during the course.

MOME 729 Dynamic Typography (5 Credits)
This course reviews the theories and principles of typography and composition with a focus on understanding the dynamics of motion, legibility, content and message.
Attributes: Studio Elective Requirement

MOME 735 Motion Media Design Studio I: Thesis Preproduction (5 Credits)
In this seminar studio course, students begin the research and exploration necessary to ensure successful completion of a thesis. Students define a personal direction, engage in theoretical exploration and begin to formulate plans for their thesis project in a self-directed and flexible format.
Prerequisite(s): MOME 719; SDGM 719 or SFDM 719.
Attributes: Studio Elective Requirement

MOME 746 Main Title Design (5 Credits)

This course is one of the most important and prestigious aspects of motion graphics. In the tradition of the masters of title design, students learn to conceptualize and express the content they are titling though innovative titling. Students create a body of work of feature film and television main titles.
Prerequisite(s): (MOME 705 or BCST 705).
Attributes: Studio Elective Requirement

MOME 747 Multiplatform Network Branding and Design (5 Credits)

This course is a comprehensive approach to design and branding for broadcast networks. Students create and pitch concepts, make storyboard presentations and as the final project, totally re-brand and re-design a network, including creation of a presentation book of their storyboard concepts and an animated montage of their redesign for the network.
Prerequisite(s): MOME 719; SDGM 719 or SFDM 719.
Attributes: Studio Elective Requirement

MOME 749 Motion Media Design Portfolio (5 Credits)

Students focus on the integration of imagery, websites, video and various other elements into a broadcast design portfolio. Students create effective tools for self-promotion, including a reel, CD compilation, website, cover letter and résumé. Proper and effective marketing techniques, interviewing skills, job search strategies and business practices are covered to provide an understanding of operations in the broadcast industry. M.A. students enroll in this course during their final quarter of the motion media program.
Prerequisite(s): MOME 709.
Attributes: Studio Elective Requirement

MOME 758 3D Design and Methodologies in Motion Media (5 Credits)

This course focuses on the creation of 3D elements for compositing with live action and 2D art. Students are responsible for the modeling and animation of 3D elements, with an emphasis on lighting and camera placement as they apply to motion graphics environments.
Attributes: Studio Elective Requirement

MOME 760 Alternative Methods in Motion Media Design (5 Credits)

This course explores a variety of nontraditional practices for time-based work. Students explore ideas of narrative form, image genres and visual language issues related to context and audience.
Prerequisite(s): MOME 719; SDGM 719 or SFDM 719.
Attributes: Studio Elective Requirement

MOME 775 Motion Media Design Studio II: Thesis Development (5 Credits)

This seminar studio continues the research and exploration of thesis ideas developed in Motion Media Design Studio I. In addition to continuing theoretical exploration, students engage in project organization and preproduction to prepare for the final thesis course.
Prerequisite(s): (MOME 735 or BCST 735) and minimum score of 6 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

MOME 777 Advanced 3D Design and Methodologies (5 Credits)

The integration of 3D models and environments adds dynamism and realism to motion media content. Through in-depth research of advanced 3D motion design techniques, students effectively implement and build high production value, 3D motion media content within simulated professional pipelines using industry-standard technology solutions.
Prerequisite(s): MOME 758.
Attributes: Studio Elective Requirement

MOME 779F Graduate Field Internship (5 Credits)

Students in this course undertake a field assignment under the supervision of a faculty member.

MOME 779T Graduate Teaching Internship (5 Credits)

Students in this course undertake a teaching assignment under the supervision of a faculty member.

MOME 790 Motion Media Design M.F.A. Thesis (5 Credits)

The motion media design M.F.A. degree program culminates with completion of a graduate-level thesis that presents a mature, resolved body of work, and demonstrates advanced professional competence through mastery of the technical, creative and aesthetic elements of the discipline. Upon successful completion of the M.F.A. in motion media design, students master the motion media tool set; create and document innovative, original motion media projects; and employ historical research and distinctive aesthetics to make a unique contribution to the discipline.
Prerequisite(s): MOME 735 or BCST 735 and minimum score of 6 in 'Graduate Prerequisite Test'.

Visual Effects

VFX 101 Survey of Visual Effects (5 Credits)

Recognizing the pivotal role of visual effects and animation in modern media, this course explores their history and development through lectures, readings, screenings of important work, and hands-on projects. Students examine the various ways in which artistic and technological tools have been used to create convincing visual effects and animations for film, television, and games. With this background, students will then be exposed to modern techniques and positions within the VFX industry.
Prerequisite(s): DIGI 130.

VFX 210 Introduction to 3D Computer Graphics (5 Credits)

This course introduces the essential concepts and hands-on techniques of the 3D CGI pipeline, from modeling and texturing to lighting, animation, and rendering. Students will gain valuable practical experience with industry-standard software while exploring the foundational principles that drive high-quality visual effects and computer-generated imagery in films, animation and interactive media. Through a series of progressive projects, students will develop a strong technical and artistic understanding of professional 3D workflows.
Prerequisite(s): VFX 101; VSFX 101; ARVR 110; SEQA 224 or ANIM 190.
Attributes: Studio Elective Requirement

VFX 220 Compositing (5 Credits)

Compositing plays a crucial role in creating the final 3D image, combining multiple picture elements into a seamless, unified composition. Using a variety of digital techniques, including tracking, layering, color-correction and image manipulation, students produce dynamic compositions and environments. Using professional tools and software, students become fluent in the technical and artistic techniques used in the industry.
Prerequisite(s): VSFX 101 or VFX 101.
Attributes: Studio Elective Requirement

VFX 230 Visual Effects-based Cinematography (5 Credits)

A strong cinematic knowledge is essential in all aspects of cinematic storytelling, both live and animated. Students delve into cinematic techniques used to elevate films and shows, such as shot definition, perspective, and framing. Focusing on camera use, lighting and color, students apply dramatic visual effects to enhance on-screen sequences. Students produce short film shots with a strong focus on the technical intricacies of cinematography.
Prerequisite(s): VFX 220 or VSFX 270.
Attributes: Studio Elective Requirement

VFX 260 Introduction to Scripting for Visual Effects (5 Credits)
In this course, students develop coding skills essential for the visual effects artist. Students write purpose-driven code that produces specific effects and develops practical production tools. By learning Python and Linux, students build a strong foundation in fundamental programming concepts while developing essential problem-solving skills. This ensures students are well-prepared for the technical demands of professional visual effects work.
Prerequisite(s): (VFX 210; VSFX 210 or ANIM 249) or ANIM 190 or (GAME 236 or ITGM 236).
Attributes: Studio Elective Requirement

VFX 289 Fundamentals of Rigging (5 Credits)
Building from the skeleton to the skin, rigs bring animated characters to life through articulated movement. In this course, students explore the principles of modeling and rigging through the use of industry-standard tools to create believable character motion. Major emphasis is placed on proper identification of controls.
Prerequisite(s): ANIM 249; VFX 210 or VSFX 210.
Attributes: Studio Elective Requirement

VFX 306 Scripting for Animators (5 Credits)
Students experienced in digital animation and character setup learn how to streamline workflow using industry-standard scripting methods to automate character model building, animate actions, and rig characters.
Prerequisite(s): VSFX 160 or VFX 260.
Attributes: Studio Elective Requirement

VFX 310 Matte Painting (5 Credits)
Digital matte painting explores the techniques of 2D image creation for use as backgrounds and set extensions. Students are introduced to the digital tool set and techniques for matte painting, as well as the history of the art. Projects and skills may complement courses dealing with related fields such as live action, 3D and compositing.
Attributes: Studio Elective Requirement

VFX 311 Digital Materials and Textures (5 Credits)
This course explores advanced concepts in materials and texturing as applied to the 3D character model. The course explores material and texture application based on age, size, mobility and species, as determined by character environment, health and social characteristics. The course integrates information gleaned from reference materials into the 3D world.
Prerequisite(s): VSFX 210; VFX 210; ITGM 236; GAME 236; ITGM 240; ANIM 249 or ANIM 250.
Attributes: Studio Elective Requirement

VFX 313 Advanced Application Scripting (5 Credits)
This course explores the use of MEL, Autodesk Maya's embedded scripting language, Python and other modes of shell scripting as tools for automating repetitive tasks, customizing the user experience, utilizing external data sources and extending the basic toolset with custom features.
Prerequisite(s): VSFX 210; VFX 210; ITGM 236; GAME 236; ITGM 240; ANIM 249 or ANIM 250.
Attributes: Studio Elective Requirement

VFX 315 Facial Setup and Animation (5 Credits)
Animated characters get much of their character from their faces. Design, style, texture and expressive articulation all contribute toward more memorable animated storytelling. In this course, students explore all aspects of facial design, modeling, texturing, rigging and animation.
Prerequisite(s): ANIM 289; VFX 289 or ANIM 280.
Attributes: Studio Elective Requirement

VFX 316 Digital Lighting and Rendering (5 Credits)
Cinematic lighting can transform and enhance the emotional impact of animated scenes. In this course, students explore 3D lighting design and rendering methodologies, developing models and solutions for various scenes. Through the study of cinematography and lighting theory, students learn to create mood, atmosphere, and focal points that meet character and narrative needs. Students become familiar with lighting tools and shading techniques, enabling them to emulate believable lighting situations in the production of short animated and live-action films.
Prerequisite(s): VFX 210; VSFX 210; ANIM 249; GAME 236 or ITGM 236.
Attributes: Studio Elective Requirement

VFX 319 Programming Models and Shaders I (5 Credits)
This course covers intermediate concepts in programming, with an emphasis on understanding the foundations of 3D modeling, lighting and shading, and the use of C/C++ and Pixar's RenderMan scene description languages. Students also learn Pixar's shading language for rendering special effects.
Prerequisite(s): VSFX 210; VFX 210; ITGM 236; GAME 236; ITGM 240; ANIM 249 or ANIM 250.
Attributes: Studio Elective Requirement

VFX 326 Motion Capture Technology (5 Credits)
Students utilize motion capture hardware/software to collect data from a live actor and evaluate, edit and export the data to a 3D digital character. The course emphasizes motion capture technology from the point of view of a technical director through managing, analyzing, importing and applying data as a structured process.
Prerequisite(s): VSFX 210; VFX 210; ANIM 249; ANIM 250; ITGM 258; GAME 258 or MOME 401.
Attributes: Studio Elective Requirement

VFX 346 Non-human Character Setup (5 Credits)
The anatomical challenges of finding rigging solutions for the unique characteristics of non-human motion are explored in this course. Use of scripting languages to expedite workflow is also explored. Emphasis is placed on the problem-solving responsibilities of a creature technical director, to include integration of muscle, cloth and fur into the rig.
Prerequisite(s): (ANIM 346; ANIM 289; ANIM 280 or VFX 289).

VFX 349 Digital Modeling for Environments and Props (5 Credits)
From haunted castles to futuristic temples, 3-D environment and prop modelers create complex and believable models that match the art direction of an animated movie. Students explore advanced topics in 3-D environment and prop modeling, with an emphasis on hard-surface modeling techniques and stylization that supports storytelling.
Prerequisite(s): VFX 210; VSFX 210 or ANIM 249.
Attributes: Studio Elective Requirement

VFX 350 Procedural Modeling and Animation Techniques (5 Credits)
Procedural modeling and animation techniques allow for the creation of environments with limitless complexity. They form the basis of techniques to create everything from expansive cityscapes to forests and volcanoes. Scenes are defined by relationships rather than singularities. Students are expected to utilize programming and text editing skills to develop dynamic digital effects.
Prerequisite(s): VFX 210; VSFX 210; ANIM 249; GAME 236 or TECH 236.
Attributes: Studio Elective Requirement

VFX 356 Advanced Character Setup (5 Credits)
This course explores the basic principles of creating an animatable skeleton for a 3D puppet, as applied to a series of anatomically different biped and quadruped characters. Students are assigned a prebuilt model to rig, explore advanced tools and apply them to various anatomical problems to find modeling and rigging solutions for believable character motion, and finally test the rigs with basic motion assignments.
Prerequisite(s): (ANIM 289; VFX 289 or ANIM 280).

VFX 359 Organic Surfaces (5 Credits)
From hideous, giant trolls to adorable, little kittens, 3D character modelers create complex and believable animated surfaces. Students develop 3D character design and organic surface modeling skills, with an emphasis on anatomy as it applies to predetermined movement requirements.
Prerequisite(s): ANIM 349; ANIM 351; VFX 350 or VSFX 350.
Attributes: Studio Elective Requirement

VFX 369 Animation Look Development (5 Credits)
A visual development artist is an essential part of an animated movie's creative team, designing and developing the look of a film. In this course, students use a variety of character-driven approaches to create illustrative-quality look development and bring an original aesthetic to their animation.
Prerequisite(s): (ANIM 349; VFX 349 or ANIM 351) and (ANIM 359; VFX 359 or ANIM 321).

VFX 375 Advanced Programming for Visual Effects (5 Credits)
In this course, students learn programming techniques and skills using C++. They explore and apply computer science concepts, control structures, data structures, use of program-development environments, program logic, problem-solving and object-oriented programming methodologies as it is practiced in the professional field of visual effects.
Prerequisite(s): VSFX 160; VFX 260; ITGM 220; GAME 220 or ITGM 303.
Attributes: Studio Elective Requirement

VFX 380 Real-time Lighting for Visual Effects (5 Credits)
The application of 3D lighting techniques allows industry professionals to create stories in real time. In this course, students become familiar with real-time production and emulate believable lighting solutions "based in reality." Students explore the theory of lighting and visual storytelling with an emphasis on composition, color, and art direction. Students apply concept designs to environments using real-time 3D applications to establish mood.
Prerequisite(s): ITGM 236; GAME 236; VSFX 316; VFX 280 or TECH 316.
Attributes: Studio Elective Requirement

VFX 395 Collaborative Experiences in Visual Effects (5 Credits)
Collaboration is key in visual effects, where teamwork and creativity come together to produce stunning results. Working in collaborative teams, students create a structured production pipeline, maintain effective communication, and propose creative solutions to technical problems, all while meeting project deadlines. Students produce an appealing and finished short project while experiencing the professional workflow of a collaborative project.
Prerequisite(s): (VFX 316; VSFX 316 or ANIM 379) and (VFX 350 or VSFX 350).
Attributes: Studio Elective Requirement

VFX 401 Visual Effects Supervision (5 Credits)
This course teaches efficient and creative use of visual effects for narrative film and television, through projects emphasizing technical problem-solving and creative planning and execution. Specific emphasis is given to on-set supervision and collaboration with directors and producers, camera, art and editorial departments. Students gain awareness of the capabilities of both digital and traditional techniques (practical effects, models and miniatures, prosthetics and animatronics, etc.).
Prerequisite(s): VSFX 210; VFX 210; FILM 240 or FILM 210.
Attributes: Studio Elective Requirement

VFX 408 Concept and Preproduction for Visual Effects (5 Credits)
Narrative storytelling is crucial in creating impactful visual effects. In this course, students study and apply principles of film language, screen design, and concept development to create compelling visual effects projects. Combining technical skills and research, students produce visual concept materials, develop well-timed animatics, and compile comprehensive preproduction packages that communicate a specific visual style.
Prerequisite(s): (VSFX 160 and VSFX 210) or ANIM 395; VFX 395 or SANM 560.
Attributes: Studio Elective Requirement

VFX 409 Professional Development for Visual Effects (5 Credits)
In this course, students develop the skills necessary for successful careers in the visual effects industry. By exploring current industry practices, students develop a strategic self-promotion plan and create professional-quality demo reels, résumés, and websites. The course emphasizes the creation of a cohesive and compelling portfolio that showcases technical and artistic capabilities, preparing students for their professional journey.
Prerequisite(s): ANIM 395; VFX 395 or SANM 560.
Attributes: Studio Elective Requirement

VFX 411 Look Development for Digital Creatures (5 Credits)
Exploring the challenges of integrating photorealistic creatures for film, television and games, students establish the look and style of 3D creatures through the definition of surface attributes. Students refine their skills and abilities for shading and texturing to create a final rendered look for a digital creature.
Prerequisite(s): (VSFX 311; VFX 311 or TECH 311) and (VSFX 316; VFX 280 or TECH 316).
Attributes: Studio Elective Requirement

VFX 420 Technical Direction for Compositing (5 Credits)
This course provides the foundation for students to produce complex composite images used in the animation, broadcast design, interactive, game and visual effects industries and equips students with the technical, theoretical and conceptual skills required to combine moving images.
Prerequisite(s): VSFX 210; VFX 210; ITGM 236; ITGM 240; GAME 236; ANIM 249 or ANIM 250.
Attributes: Studio Elective Requirement

VFX 425 Photorealistic Rendering (5 Credits)
This course explores concepts in 3D digital materials, lighting and rendering and developing techniques to create the illusion of a "real" world utilizing 3D computer graphics. Students gain understanding of and skills with lighting tools, including 3D and 2D applications, as well as a variety of rendering techniques.
Prerequisite(s): VSFX 210; VFX 210; ITGM 236; ITGM 240; GAME 236; ANIM 249; ANIM 250 or MOME 401.
Attributes: Studio Elective Requirement

VFX 428 Particles and Procedural Effects (5 Credits)
This course investigates visual effects techniques including particle systems, rigid body dynamics and fluid simulations. Students explore aspects of particles and procedural effects. Professional workflows and presentation skills are also emphasized.
Prerequisite(s): VSFX 350 or VFX 350.
Attributes: Studio Elective Requirement

VFX 437 Advanced Compositing (5 Credits)
In this course students gain proficiency in complex and state-of-the-art digital compositing techniques and apply these skills to the creation of professional portfolio pieces that showcase technical and artistic mastery. Individual research and personal creative direction are encouraged and supported. Topics of study include advanced green screen techniques, 3D matchmoving and integration, depth compositing, stereoscopic compositing techniques and other developing techniques and areas of interest.
Prerequisite(s): VSFX 270 or VFX 220.
Attributes: Studio Elective Requirement

VFX 440 Character Effects Cloth Pipeline (5 Credits)
This course explores techniques for clothing creation, dynamic movement and animator control that support the overall aesthetic and tone of the animated story. Students bring animated characters to life and make their stories believable through digital clothing methods and techniques.
Prerequisite(s): ANIM 369; ANIM 354; VFX 350 or VSFX 350.
Attributes: Studio Elective Requirement

VFX 447 Models and Miniatures (5 Credits)
Students learn traditional hands-on techniques for the building of models, miniature environments and set extensions. Methodologies to combine these creations into believable visual effects scenes both with and without live action elements are explored. Through direct and hands-on exposure to miniature construction, finishing and photography, students develop the skills required to produce a visual effects shot utilizing models—rather than or in addition to computer graphics or optical effects techniques. The context of these types of practical effects is set through the use of film clips and examples, as well as discussion of the methodologies used throughout film history.
Prerequisite(s): (VSFX 210; VFX 210 or PROD 221).
Attributes: Studio Elective Requirement

VFX 448 Visual Effects Studio I (5 Credits)
In this course, students are introduced to the preproduction phase including analysis and critique, organization and scheduling. The goal is to create a coherent body of work expressing students artistic visions through acquired skills.
Prerequisite(s): VFX 408 or VSFX 406.
Attributes: Studio Elective Requirement

VFX 479 Undergraduate Internship (5 Credits)
Internships offer students valuable opportunities to work in a professional environment and gain firsthand experience to help them prepare for careers. In an approved internship setting, a student typically spends one quarter working with an on-site professional supervisor and a faculty internship supervisor to achieve specific goals and objectives related to the program of study.

VFX 488 Visual Effects Studio II (5 Credits)
Students create a coherent body of work expressing their personal artistic visions through acquired skills. Students visually document their technical skills, showcasing their mastery of production-level techniques, tools, and software. Students adhere to industry standards of artistry and aesthetics, reflecting the latest trends and practices. In addition to technical skill, students demonstrate effective teamwork and collaboration by engaging in regular discussions with classmates, incorporating their feedback into the work.
Prerequisite(s): VFX 448; VSFX 408 or ANIM 448.
Attributes: Studio Elective Requirement

VFX 501 Digital 3D Effects (5 Credits)
This course covers many of the essential aspects of 3D modeling, texturing, lighting and effects animation for use in the visual effects industry. Professional workflows, techniques and presentation skills are emphasized throughout the course.
Attributes: Studio Elective Requirement

VFX 502 Programming 3D Models and Shaders (5 Credits)
Students taking this course are introduced to the RenderMan Scene Description Language (RIB) and the RenderMan Shading Language (RSL). Pixar's RenderMan is a widely used rendering technology used for feature animated and special effects film production. The basics of Python and MEL scripting are also covered.
Attributes: Studio Elective Requirement

VFX 503 Cinematography for Visual Effects (5 Credits)
This course explores the art and technique of photography for films with visual effects. Students learn the technical and aesthetic aspects of practical camera work. They also study camera composition and motion specific to a 3D digital space as part of the process to visualize scenes in a movie before filming begins. Other concepts, such as shot definition, framing and timing, are addressed.
Attributes: Studio Elective Requirement

VFX 505 Animation Character Set-up (5 Credits)
This course explores simple principles of modeling and rigging as applied to a series of character technical direction challenges. Students explore digital tools and apply them to various anatomical problems to find modeling and rigging solutions to abet character motion. Emphasis is placed on proper identification of controls for the end user.
Attributes: Studio Elective Requirement

VFX 705 Programming Concepts for Visual Effects (5 Credits)
Students gain introductory knowledge of the LINUX/UNIX environment and how it relates to text editing and file management. In addition, the foundations of programming languages are covered utilizing LINUX/UNIX shell scripting, PERL, MEL, C++ or similar programming.
Attributes: Studio Elective Requirement

VFX 708 Modeling for Visual Effects (5 Credits)
This course covers many of the essential aspects of 3D modeling, texturing, lighting and animation for use in the visual effects industry. Professional workflows, techniques and presentation skills are emphasized and encouraged throughout the course.
Attributes: Studio Elective Requirement

VFX 709 Visual Effects Theory and Application (5 Credits)
In this course, theoretical and practical study methods are used to inform and develop students' practices. By integrating historical studies, theory and practice, students address issues central to the visual effects industry and develop conceptual ideologies.

VFX 715 Digital Compositing I: The Art and Science of Digital Integration (5 Credits)
This course introduces high-end digital multilayering. Techniques and aesthetic issues are explored to produce time-based imagery. Students acquire and integrate aesthetically driven live-action imagery into broadcast or visual effects projects utilizing a wide range of media formats.
Attributes: Studio Elective Requirement

VFX 721 Procedural Modeling and Animation for Production (5 Credits)
Students learn about the techniques of procedural modeling and animation used in visual effects film. Students use procedural modeling techniques and camera techniques and prepare documentation required in visual effects productions. The end result is a visual effects portfolio of professional quality.
Prerequisite(s): VSFX 705 or VFX 705.
Attributes: Studio Elective Requirement

VFX 728 Particles and Procedural Effects: Stochastic and Calculated Methodologies (5 Credits)
This course explores advanced visual effects techniques including particle systems, rigid body dynamics and fluid simulations. Using industry standard software, students explore innovations in atmospheric effects, aspects of particles and procedural methodologies. Professional workflows and presentation skills are practiced and emphasized throughout the course.
Prerequisite(s): CMPA 725; VSFX 721 or VFX 721.
Attributes: Studio Elective Requirement

VFX 735 Visual Effects Studio I: Preproduction (5 Credits)
Students define a personal vision creating visual effects for film. Concentrating on the design of visual effects sequences, specific attention is directed toward the development of scripts, storyboards, shot breakdowns, animatics, technical direction documents, estimates and schedules in the planning process. As preparation for thesis work, this course is flexible with a strong emphasis on critique.
Prerequisite(s): VSFX 709; VFX 709 or CMPA 717.
Attributes: Studio Elective Requirement

VFX 748 Visual Effects M.A. Studio (5 Credits)
This course focuses on production of visual effects for student demonstration DVDs and reels. Students choose sequences and software, while the professor oversees production and completion. Collaboration between students with complementary technical and creative specializations is stressed as a reflection of professional industry practice. Emphasis is placed on creative and technical problem-solving for image acquisition, image simulation, visual composition and element compositing.
Prerequisite(s): (VSFX 709 or VFX 709) and minimum score of 5 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

VFX 749 Visual Effects Portfolio (5 Credits)
Students focus on the integration of imagery, websites, video and various elements into a visual effects portfolio. Students are expected to learn and apply effective tools for self-promotion, including a reel, CD compilation, website, cover letter and résumé. Proper and effective marketing techniques, interviewing techniques, job search strategies and business practices are covered to provide an understanding of operations in the effects industry. M.A. students enroll in this course during their final quarter of the visual effects program.
Prerequisite(s): (VSFX 709 or VFX 709) and minimum score of 5 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

VFX 752 3D Color, Lighting, and Rendering (5 Credits)
Students develop believable lighting and rendering solutions for environments in both live-action integration and computer-generated scenes. Students understand the lighting tools available as well as a variety of rendering techniques to create believable lighting situations.
Prerequisite(s): VSFX 709; VFX 709 or ANIM 709.
Attributes: Studio Elective Requirement

VFX 755 Procedural 3D and Shader Programming (5 Credits)
This course is an in-depth study of programming techniques used to develop the artistic vision of a 3D environment. Industry-standard shader language is used to create rendering effects for the production of still images and animations using the most prevalent software in the industry.
Prerequisite(s): VSFX 705 or VFX 705.
Attributes: Studio Elective Requirement

VFX 758 Digital Compositing II: Advanced Studies of Multi-layered Integration (5 Credits)
In this course, students learn advanced multi-layering techniques combining CGI, live action and graphics to resolve complex problems in motion design and visual effects technologies.
Prerequisite(s): CMPA 705; VSFX 715 or VFX 715.
Attributes: Studio Elective Requirement

VFX 762 Matte Painting: Photo-realistic Environment Creation (5 Credits)
This course addresses the role of digital matte painting in augmenting the visual environment; students apply this technique to the re-creation of both realistic and fantasy scenes. Issues such as color, space, depth and perspective as painting techniques are explored. The elements created in the course may be used with 3D elements and composited for other projects.
Prerequisite(s): VSFX 708; VFX 708 or ANIM 709.
Attributes: Studio Elective Requirement

VFX 775 Visual Effects Studio II: Production (5 Credits)
Students analyze the possibilities and constraints of visual effects design as they refine an entire visual effects vision for visual effects sequences. The course is flexible with a strong emphasis on thought processes, aesthetics and research.
Prerequisite(s): (CMPA 741; VSFX 735 or VFX 735) and minimum score of 6 in 'Graduate Prerequisite Test'.
Attributes: Studio Elective Requirement

VFX 779F Graduate Field Internship (5 Credits)
Students in this course undertake a field assignment under the supervision of a faculty member.

VFX 779T Graduate Teaching Internship (5 Credits)
Students in this course undertake a teaching or field assignment under the supervision of a faculty member.

VFX 790 Visual Effects M.F.A. Thesis (5 Credits)
The visual effects M.F.A. degree program culminates with completion of a graduate-level thesis that presents a mature, resolved body of work, and demonstrates advanced professional competence through mastery of the technical, creative and aesthetic elements of the discipline. Based on original research, ideation and concept development, students earning a M.F.A. in visual effects create original cinematographic, photorealistic and stylized visual effects that demonstrate advanced professional standards in technical expertise, artistry and aesthetics, and contribute to the scholarly and creative advancement of the discipline.
Prerequisite(s): (CMPA 741; VSFX 735 or VFX 735) and minimum score of 6 in 'Graduate Prerequisite Test'.