

Three or Four-Year Degree Program  
BACHELOR OF FINE ARTS  
*in* 3D ANIMATION  
& VISUAL EFFECTS

*Students have the option of completing in three or four years, depending on the number of terms they take each year.*



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LOCATION

LOS ANGELES, CALIFORNIA

*Location is subject to change.*

*For start dates and tuition, please visit [nyfa.edu](http://nyfa.edu)*

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Over the past several decades, 3D animation has evolved from an emerging field in film, animation, and game design to becoming a major focus across the entertainment industry and beyond. Be it the immersive environs of James Cameron's *Avatar*, feature-length films pioneered by Pixar's *Toy Story* and recent releases like *Rango*, or in record-breaking video games like *BioShock* and *Halo 4*, 3D animation is everywhere these days.

By learning the technical know-how and aesthetic possibilities of creating 3D graphics, motion graphics, and visual effects, students enrolling in NYFA's BFA in 3D Animation & Visual Effects in Los Angeles acquire a skill set that will open the doors to such fields as film, television, game design, architecture, interactive, educational, scientific, and other communications and commercial industries.

Not only are students taught to realize their characters and stories on the industry standard Maya 3D computer program, but they will also learn the full field of skills required to be a successful 3D animator, including story writing, directing, cinematography, editing, and lighting. In addition, students also learn how to use Maya for cloth and dynamics simulation, ZBrush and Mudbox for advanced modeling and texturing, Motion Builder for motion capture, and Nuke for compositing and visual effects. Students leave the BFA in 3D Animation & Visual Effects program ready to find employment in the rapidly growing field of 3D Animation for a variety of media.

Potential students do not need to have previous 3D or animation experience. A familiarity with studio art or previous computer experience will help students to reach their educational goals more quickly. In addition, it is advisable that students have some background using computer graphic programs like Adobe Illustrator or Photoshop.

Students learn the fundamentals of 3D animation and visual effects through hands-on instruction from our professional faculty in the heart of the entertainment industry surrounded by studios such as Warner Brothers, Universal, Disney, and Dreamworks.

From day one, students receive hands-on experience working with the equipment to acquire the technical know-how to work with sophisticated, state-of-the-art equipment, while attending in-class lectures and supervised workshops to learn the fundamentals of the craft and the nuances of storytelling. At the completion of the program in, **students receive a digital reel of all the work and original projects they have completed that will help them to find employment in the industry.**

Over the course of eight intensive, full-time semesters, students dedicate themselves to the study of animation in all of its forms. Students have the option to complete the program at an accelerated rate of three years, or students can complete the program in four years, if they wish to take summer breaks.

Like other Bachelor of Fine Arts programs, students will dedicate two-thirds of their time to mastering the crafts of 3D animation and visual effects and the remaining third immersing themselves in the Liberal Arts and Sciences.

The BFA in 3D Animation and Visual Effects Program is offered exclusively at our Los Angeles campus. However, **QUALIFIED STUDENTS HAVE THE OPTION OF COMPLETING COURSE WORK AT THE NEW YORK FILM ACADEMY IN NEW YORK CITY IN A ONE-YEAR NON-DEGREE PROGRAM AND THEN APPLYING THEIR COURSE WORK TO BE ACCEPTED FOR ADVANCED STANDING IN THE BFA 3D ANIMATION AND VISUAL EFFECTS DEGREE PROGRAM.**

*Please Note: curriculum and projects are subject to change and may vary depending on location. Students should consult the most recently published campus catalog for the most up to date course information.*

## WHAT YOU WILL LEARN & ACHIEVE

In the BFA in Animation program students will learn and demonstrate the following:

- Preparation to enter a competitive industry.
- How to use the latest software and technology.
- Discipline and practice using current industry skills.
- Ability to deliver a project from the beginning to the end in a professional manner.

The program will also be dedicated to fundamental visual storytelling. Students will dissect principles and techniques of live-action filmmaking and apply them to a CG world. Students will learn:

- How to tell a good story.
- How real lights correspond to CG lights.
- How real cameras and lenses correspond to virtual cameras and lenses.
- How to bring life to a character using the basic principles of animation.
- Traditional drawing and sculpture as a foundation for digital tools in those disciplines.

BFA Students will graduate with a 3 to 5 minute Demo Reel.

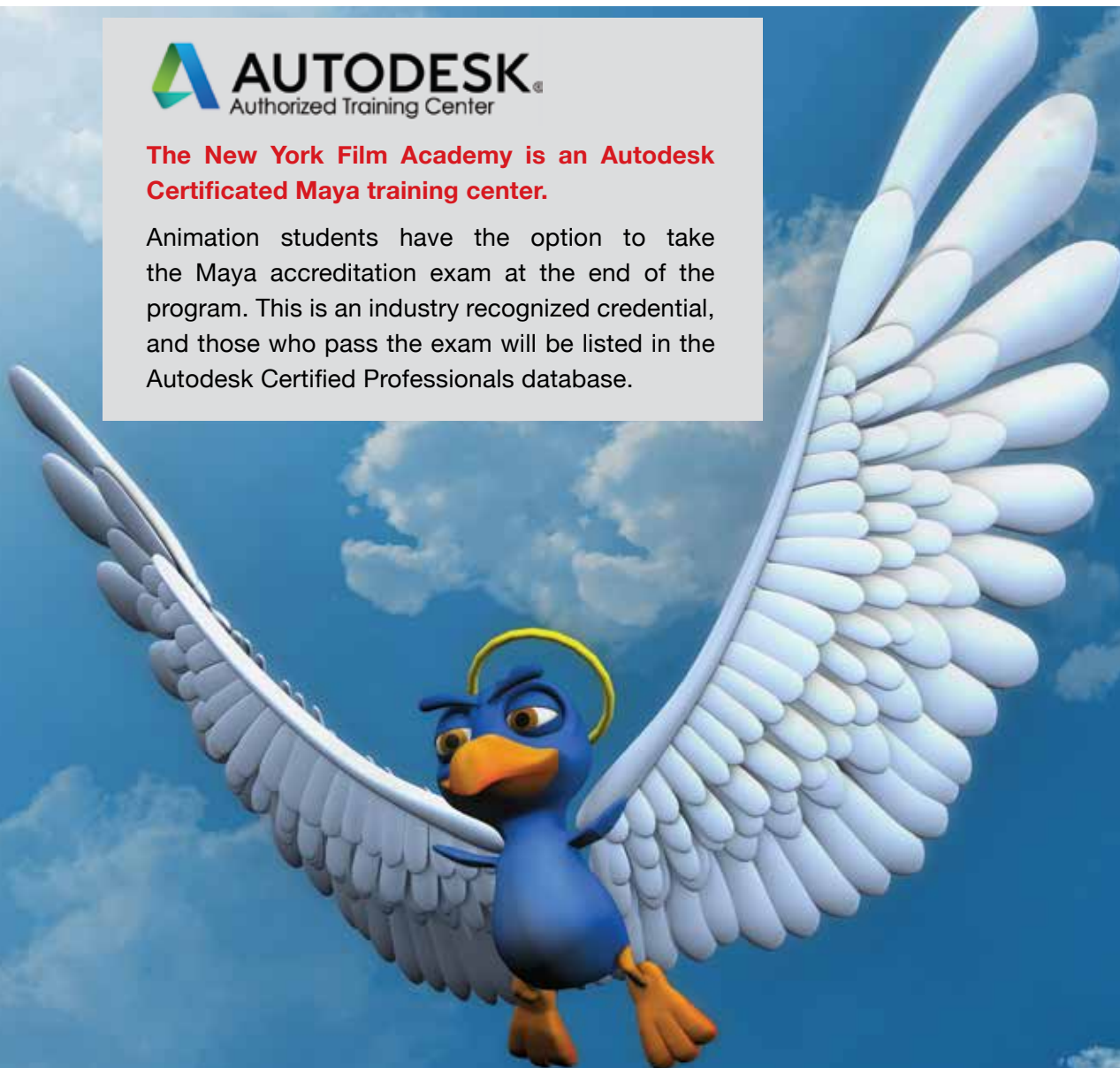
Disciplines taught in depth are:

- Character Design
- Modeling (characters and environments)
- Matte Painting
- Rigging
- Texture painting
- Look Development
- Animation
- Dynamics (fire, fluids, fur etc)
- Compositing
- Scripting
- Lighting and rendering



**The New York Film Academy is an Autodesk Certified Maya training center.**

Animation students have the option to take the Maya accreditation exam at the end of the program. This is an industry recognized credential, and those who pass the exam will be listed in the Autodesk Certified Professionals database.



## COURSE DESCRIPTIONS

### YEAR ONE OVERVIEW

The primary focus of the first year is to assist students in obtaining fundamental knowledge of computer graphics, while creating digital and practical creatures using both traditional materials and computer programs. **The following courses comprise the 3D animation and visual effects portion of a student's curriculum; their required Liberal Arts and Sciences classes are listed at the end of the BFA and BA section of the brochure.**

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### SEMESTER ONE

#### 3D ESSENTIALS

Students will learn Computer Graphics terminology and create and edit digital images and video using industry standard tools. Students will also learn about experimental video animation, and create original animation pieces using visual and storytelling techniques learned in class.

#### DRAWING & ANATOMY

The purpose of this course is to explore and become familiar with the human form. Students will gain a deep and intimate knowledge of the human form on a perceptual and anatomical level. The classes will be focused on direct observation from a live model, focusing on gesture and accurate proportions. This course covers advanced drawing concepts as they relate to figure drawing, character modeling and animation.

Topics include basic human and animal anatomy and form as it relates to the surrounding environment and spatial relationships. In this course students will continue to develop the figure by using the basic understructure for animation. Rotation of poses, simple motion studies, sense of weight, gesture studies, action line, and the use of light and shadows will be incorporated into the development of the figure studies.

#### SCULPTURE I

This course teaches the sculptural techniques in a variety of clays geared toward character-based and realism-based artworks. This course covers armature construction, neutral and dynamic posing, and techniques.

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### SEMESTER TWO

#### MODELING I

Students will learn Computer Graphics terminology and create and edit digital images and video using industry standard tools. Students will also learn about experimental video animation, and create original animation pieces using visual and storytelling techniques learned in class.

#### DRAWING & SCULPTURE

This course teaches the sculptural techniques in a variety of clays geared toward character-based and realism-based artworks. This course covers armature construction, neutral and dynamic posing, and techniques for modeling human and character features, dimensional planes, and textural surfaces. Students will practice realizing human anatomy into three-dimensional form.

#### CHARACTER ANIMATION

Students will begin with a survey course in performance and animation fundamentals guided by the basic principles of animation. Subsequent projects will serve to highlight these principles with practical application in industry standard programs. The final phase of the class will be the production of a polished piece. Featuring either two distinct characters animated in a single scene, or one character animated and composited alongside live action footage.



## SEMESTER THREE

### MODELING II

In this course, students explore the various careers offered in the computer animation and visual effects industry, while covering more advanced topics such as layout, character set-up, HDR lighting, effects animation, and more. The remainder of the semester will then focus on the creation of a polished and specialized portfolio piece.

### TEXTURING & LOOK DEVELOPMENT

This class will introduce students to the basics on Texturing and Shading models to achieve photorealistic results. Students will be required to texture and shade their Modeling I and II models and achieve a photorealistic still render.

### CHARACTER DESIGN

This course will show various approaches to conceptualizing and designing believable and original creatures/characters for feature films and video games. Students will take a creature from very rough thumbnails to silhouette studies to final believable renders based on anatomically plausible construction and photorealistic presentation. This class will be open to various techniques and software from the powerful Zbrush Dynamesh to Mudbox, Maya, Photoshop, and traditional clay maquettes.

This course will also teach how to give creatures an underlying animation skeleton that animators can use to bring life to their characters. Also covered are how to rig bipedal, quadruped, and fantastical creatures.

## YEAR TWO OVERVIEW

In the second year, students will continue to practice character setup while employing animation and are challenged to combine the broad range of 3D disciplines they have learned into a final product.

## SEMESTER FOUR

### LIGHTING & RENDERING

This course will introduce students to approaches and philosophy in creating both photorealistic lighting for live action, as well as stylized lighting for animated feature films. The course will focus on a strong understanding of techniques used in practical “real” lighting and cinematography and then applying those techniques to computer graphics to achieve better, more grounded, and realistic results. Students will also learn how to acquire lighting data in a live action set via HDRI as well as traditional artistic lighting via V-Ray rendering. Students will integrate their preexisting models and textures into a fully lit, all CG scene or a background live action plate.

### COMPOSITING

Learning compositing is the cornerstone of all visual effects (VFX) shots. Students learn how to combine their 3D renders, matte paintings, and digital video to create polished Hollywood-level VFX shots. In addition to working on their own projects, students are given difficult composites already shot by the instructor to teach students how to problem solve the types of shots typical of a production shoot including Green Screen Composites, Tracking, Color Theory, and Nuke 2D/3D workflow.

### SCRIPTING IN PYTHON & MEL

Maya’s scripting abilities allow the creation of any custom tools you may need. Whatever Maya cannot do natively can be achieved by writing your own Mel or Python scripts. This very powerful class will help even the most non-technical artists speed up their workflow by making mundane and difficult tasks easier through custom tools creation.



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## **SEMESTER FIVE**

### **DIGITAL ENVIRONMENTS**

This course will take students through the process of creating the impossible landscapes, imaginary vistas, and set extensions that are physically impossible to film or too expensive to create using other mediums. The class will take students through the process from concept of a shot to final images including reference photography, Photoshop techniques, 3D projection, and integration.

### **CHARACTER SETUP**

This class will focus on the deformations and skinning of characters, how skin folds, how muscles flex, and facial setup and deformation. Shot modeling/corrective pose modeling and soft skin bodies will all be discussed. Students can further refine their Character Setup I rig or one provided by the class.

### **MATTE PAINTING**

As Hollywood films demand more complex shots in feature films, matte paintings are requiring more than what can be achieved in 2D. This class will teach how to combine the best tools in traditional matte painting with those in a 3D pipeline using both Maya projection techniques as well as Nuke's 3D toolset. Students will create an all CG shot for their reels using all available techniques alongside the Matte Painting course.

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## **SEMESTER SIX**

### **MATCHMOVING**

Understanding matchmoving is one of the most important disciplines in integrating digital effects into live action footage. This course will give students a thorough understanding of how cameras work and why truly understanding the traits of a camera has such an impact on realistic results.

### **SCREENWRITING**

In this course, students will deepen their understanding of narrative, dramatic, and visual storytelling. Character, Plot, Story Structure, Dialogue, Subtext, Suspense, Plant and Payoff, Mystery, Misdirection, and other concepts are discussed and applied to original pieces created by the students.

### **VISUAL EFFECTS**

What is a Hollywood blockbuster film without an explosion? This course will take students through the techniques of creating and controlling realistic natural phenomena such as fire, smoke, dust, particle effects, and volumetric fluid dynamics. Students will also learn how to integrate dynamics into live action plates as well as CG features.

## YEAR THREE OVERVIEW

In the final year, students focus on becoming better storytellers, while creating their Animation Thesis Projects.

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### SEMESTER SEVEN

#### CINEMATOGRAPHY

This course is designed to give students an introduction to the technical and conceptual aspects of cinematography through short format filmmaking. Students will learn from seasoned cinematographers in the film industry all the craft skills covering tools, techniques, and language.

Students will become familiar with several industry standard cameras and have a good working knowledge of lighting a moving subject. Through practical work, students learn how different cameras are handled and performed, and gain a basic understanding of exposure and movement control for shooting on both digital and film cameras in addition to having a broad understanding of how to tell a story with the camera. The class also covers professional working practices, on-set etiquette, and other vital technical aspects of cinematography.

Students will learn to analyze, interpret, and utilize traditional methodologies of cinematography and apply these methodologies and techniques to their work as digital animation artists.

#### STORYBOARD & ANIMATIC

This course will teach students the storytelling art and techniques of traditional storyboarding as well as modern 3D animatics or previsualization using industry standard programs.

#### ACTING FOR ANIMATORS

Animators will learn basic concepts for working with actors: subtext, scene study, character analysis, as well as techniques for voice acting used in animated films.

#### THESIS PROJECT DEVELOPMENT

This course centers on the practical experience in animation and pre-production animation needed to develop their Thesis Project. Development, direction, and production of a sophisticated, well-produced film or project are all covered. Students are free to determine style, format, and genre of project.

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### SEMESTER EIGHT

#### ANIMATION THESIS PRODUCTION

In this course, students create an original piece that will be the synthesis of all the techniques they've learned throughout the program. By this point in the program, students will have determined which discipline within 3D Animation best suits their abilities and creative goals, and will highlight that discipline in a final project.

#### PROFESSIONAL DEVELOPMENT IN ANIMATION

This course prepares students for what awaits them in the professional world of Animation once they graduate. Students will learn how to prepare and polish professional materials such as a demo reel, which will be crucial to their introduction to the professional world. Also discussed are the standards and practices of the business of animation. Industry guest speakers will take part in the course.

#### THESIS PORTFOLIO

In this course, students create a demonstration reel of projects they have executed throughout their coursework. It will be the synthesis of all the techniques they've learned throughout the program. By this point in the program, students will have determined which discipline(s) within 3D Animation best suits their abilities and creative goals, and will highlight that discipline in a demo reel.

#### ANIMATION DIRECTED STUDIES

This course is a Directed Study on selected problems in animation not covered in other courses. The selected topics of this course vary from semester to semester. Each seminar focuses on various issues in the field of animation and allows the student an opportunity to pursue projects related to the subject of the course.