

# animation & visual effects

BACHELOR OF APPLIED SCIENCE DEGREE

First possible start date

Approx. 8 weeks

Length of Term

Approx. 16 weeks

Length of Semester

8 months

Length of Academic Year

32 months

Length of Academic Program

Steps to getting started

- Consultation/Campus Tour
- Submit Application \$95\*
- Acceptance Interview
  - Personal Essay
  - Testing (if applicable)
  - Transcripts
  - Scholarship Application
- Financial Aid Appointment
- Orientation

\* \$10 for Veterans. This is a one time non-refundable fee. Please see the refund policy in the catalog for more details.

## freshman year

### GENERAL EDUCATION

Courses are online.

Transfer credits for general education courses are granted on a course-by-course basis based on a transfer request made by the student prior to matriculation. Transfer credits are not guaranteed. See transfer credit policy in the catalog for more details.

Communication & Critical Thinking  
Critical Studies: Analytical Writing and Literature

## sophomore year

Mathematical Concepts  
Concepts in Science  
Introduction to Psychology

## junior year

Popular Culture

## senior year

Creative Writing  
American History

### PROGRAM SPECIFIC

Intro to Animation  
Concept and Imaging  
3 D Modeling 1  
Animation 1  
Compositing 1

Texture and Lighting 1  
Texture and Lighting 2  
3D Modeling 2  
Current Industry Techniques  
Character Rigging  
Dynamic Effects  
Animation 2

Compositing 2  
Motion Studies  
Reel Production 1  
Reel Production 2  
Group Project  
Portfolio

### FINE ART

Drawing Bootcamp  
Design Basics

Concept Art

Creative Pre-production

### COMMON CORE

Media Sound & Visual 1  
Media Sound & Visual 2  
Living in a Media World 1  
Living in a Media World 2

Professional Life Skills  
Elective: Business of Media or Externship

Business of Media is an elective course. In lieu of taking Business of Media, students may elect to take the externship elective. Students must complete an application process through the Education Dept. to determine eligibility for the externship.

Academic program typically follows the above course sequence; however, Ex'pression reserves the right to modify or change the school calendar, curriculum, class schedules, and/or course sequences as it deems necessary. Review our consumer disclosures at [www.expression.edu/disclosures](http://www.expression.edu/disclosures)

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## COURSE DESCRIPTIONS

ART101

### Drawing Bootcamp

The objective of Drawing Bootcamp is to teach students the tools necessary to enhance their drawing skills as well as teach a new way of seeing and looking at the world in preparation for a future in digital art. This will be achieved through a series of unique exercises, designed to develop skills in the standards of figure drawing, anatomy, perspective, and portraiture. The course focuses on drawing from life, using live models and inanimate objects, building artistic skills, honing visual acuity and hand-eye coordination, as well as developing an internal data bank of images and visual understanding. The final project for the course requires the students to produce a presentation quality portfolio of the best examples of their drawings from the course as well as a final composition using all of the concepts and lessons from the course.

ART102

### Concept Art

Building upon the foundation of observational drawing skills developed in Drawing Bootcamp, Concept Art provides the opportunity for students to begin exploring their inner observations. The class will focus on the process of conceptualizing characters/creatures, props, vehicles, and environments, while developing one's own style. Students will become familiar with methods, tools, techniques, and materials that concept artists use to create dynamic and original work. There will be collaborative assignments based off of production scenarios that will give students a feel for the role a concept artist plays in the industry. The final project for Concept Art will be to present the storyboards and concept art that describes a cohesive, inhabited imaginary world.

ART103

### Design Basics

A career in the digital arts requires a working knowledge of art and art concepts, as well as familiarity with professional art terminology. Students will explore color theory, composition, figurative and conceptual sculpture, design, painting, and other traditional media, art history, and museum studies. The course culminates in a student art gallery exhibition of final projects. Concepts covered in class will inform students' future work in both 3D and 2D digital art and design.

AVE104

### Concept and Imaging

This course builds on the skills learned in the fine arts courses and takes them into the digital realm by using Adobe Photoshop as a digital paint medium. Students will focus on composition, value study and perspective. We will look at specific techniques in Adobe Photoshop for creating color images, and custom brushes. Students will be expected to apply concepts learned from Drawing Bootcamp and Design Basics when creating their paintings. These painting will be done using the Wacom tablet and pen. From this course, students will strengthen their fundamental painting skills while gaining a strong foundation in Adobe Photoshop.

AVE201

### Compositing 1

Compositing is the art and science of manipulating and combining different photographs together to create one seamless image. In this course the students will learn the fundamental approaches to compositing with digital photography. Students will learn to use digital SLR cameras, digital darkroom techniques, creatively manage transparency, and develop an understanding of applied lighting and perspective. These skills are implemented along with image manipulation strategies to create a photographically "impossible" composition. In the second half of the course, the students will extend these compositing concepts into time-based media using track mattes, dynamic systems, and distortion effects. For their final project, students will composite a moving digital matte painting.

AVE202

### 3D Modeling 1

In 3D Modeling 1 students examine 3D modeling techniques, terminology and methods. Students learn basic 3D modeling by using specific toolsets with an emphasis on modeling efficiently and correctly. Students will explore methods of modifying and deforming geometry, and apply skills to architecture, landscapes, vehicles and characters.

AVE203

### Introduction to Animation

In this class, students will explore and create assignments covering the 12 Principles of Animation. Projects such as a bouncing ball, a walk cycle, a flap cycle, and a final project will allow students to learn principles such as timing, squash and stretch, posing and more. These projects will be created using pencil and paper, and then scanned into the computer for timing using a timeline animation package called DigiCel Flipbook. Class lectures focus on history and application of the 12 Principles of Animation. Students will conclude the class by designing a complete animation piece to include in their portfolio.

AVE204

### Animation 1

In Animation 1, students are presented with the fundamentals of animating in a 3D environment. Students will explore the principles used in traditional cartoon animation, and how they affect modern digital animation techniques used in current industries. Students will learn how to pre-visualize an animation before producing it, and then move through a series of basic digital animation techniques to realize the final product. Animation skills will be developed through animating objects and infusing them with human characteristics, including a realistic walk cycle, action studies, lip synchronization, and a final acting scene.

AVE205

### Texture and Lighting 1

This course introduces the fundamental concepts, terminology and techniques of computer-generated 3D texturing and lighting. Students will create and apply textures to 3D objects, as well as work with concepts and techniques that will be used to create realistic objects and scenes. Students will explore the use of Photoshop and other software tools to create texture sources, and will work to create various real-world lighting effects, textures, texture maps and lighting schemes for 3D objects.

AVE302

### Creative Pre-Production

The goal of Creative Pre-Production is to impress upon our future team members the great importance of planning in a 3D art pipeline, as well as the underlying presentation and communication skills involved. Students will create a production packet for a fully realized 30 second short animated piece. The expertise learned by creating this story history and presentation will serve as the foundation for students to envision, explore and execute their first professional demo reel, which will be created from assets developed during future classes. Students will pitch this Production Packet for their final grade. The class encourages creative thinking about unique ways of presenting work, while maintaining a connection with industry standards for demo reels.

AVE303

### 3D Modeling 2

In 3D Modeling 2, students explore advanced techniques for the creation of hard-surface and organic models. The course is broken up into two fundamental disciplines, edge-loop modeling for animation, and rapid organic character/creature creation within a digital sculpting environment. Zbrush and Mudbox software along with the concepts of "digital maquetting" will be explored. The students will take their designs from Creative Pre-Production and realize them in a 3D environment. The goal is to complete a production ready model for character rigging and animation.

AVE304

### Texture and Lighting 2

Students will explore advanced use of Maya's procedural texturing abilities. They will also be exposed to the tools and techniques necessary to achieve precise lighting and efficient renders. Topics will also include Mental Ray and other renderers, global illumination and high dynamic range imaging. The final project in this course is to complete the texture and lighting of the characters and sets created in 3D Modeling 2.

AVE306

### Animation 2

Animation 2 builds on the topics introduced in Animation 1, with a focus on completing an animation worthy of putting on a demo reel. Students will use the production packet created in Creative Pre-Production as a roadmap for an animated piece. After the basics are reviewed, students will embark on the creation of the final animation using their custom characters and stories.

AVE315

### Character Rigging

This course demystifies character setup. Students will begin by finalizing their models, then build a skeleton and bind it to the character. They will then build controls and an interface so that the character is easy to animate. The character setup each student creates will be tested by animation assignments both for the body and the face. We will touch on more advanced topics including MEL scripts and expressions. Upon completion, each student will have created, set up and tested a character with a custom graphical user interface.

AVE401

### Motion Studies

This course teaches students storytelling through the medium of motion capture animation. After developing a 20-30 second story arc, students will learn Laban acting technique. Performances will then be 'digitized' via the Vicon motion-capture system. MotionBuilder is then used to apply the performances to 3D characters students have created in prior classes. The final products of this course are imported into Maya where scenes will be lit and rendered.

AVE403

### Compositing 2

This course will expand upon the knowledge gained in Compositing 1 through the use of compositing techniques for film and video. The students will learn how to seamlessly blend CG and live action film together and finish it with the knowledge and understanding of multi-pass rendering and time-based compositing techniques. They will learn articulated and procedural matte creation through the use of greenscreen and rotoscoping, as well as camera integration by motion tracking and matchmoving. Matchmoving is the art of creating a virtual 3D camera based upon 2D video/film footage. This is a crucial link in the pipeline combining CG imagery with actual filmed footage. The students will use all of these skills within two projects: integrating a live action element into a virtual background and integrating a CG element into a live action background.

AVE406

### Group Project

In this course a producer/director will bring in a project that has been through preproduction—that is to say—the script has been written, the storyboards have been created and the project has been planned out. Students will be assigned a portion of the project according to their skills and interests. They will be graded on the timeliness and the quality at which they produce the assets that they have agreed upon. The classes will consist of daily critiques of the work in progress, lessons on the techniques necessary to achieve the director's vision, project management discussions and conflict resolution. The outcomes of the course will be a short video of the group effort that students can use on their demo reel. They will come away from the course having had the experience of working on a team.

AVE412

### Dynamic Effects

Dynamic Effects are a way of using physics to animate motion in order to create effects like explosions, smoke, fire, cloth and liquid. The class focus is Maya's dynamic simulation engines and how to get the most out of them. Some of the dynamic engines that are covered are particles, rigid bodies, N-cloth, fluids and hair. Each lecture consists of an introduction to an engine with its functions and terminology fully explained. The students are also given many examples that guide them into creating their own visual effects. Work in this class consists of three projects and one final which is a visual effect of the student's choice.

AVE414

### Reel Production 1

In Reel Production 1, students will begin honing their problem solving skills, learning how to create a production schedule, adjust it, and stick to it, while beginning to create the main piece for their demo reel. Students will learn presentation skills from each other through regular group critique. In addition, students will learn about job descriptions and definitions, studio differences across the industry, as well as rendering and lighting techniques.

AVE415

### Reel Production 2

Reel Production 2 is a continuation of Reel Production 1, students will continue to hone their problem-solving skills and students will complete the content for their demo reel which was produced in Reel Production 1. Students will also continue to work on presentation skills and group critique. Topics covered in this class will include rendering and lighting techniques, new software, plug-ins, and other new techniques.

AVE417

### Current Industry Techniques

The techniques of the animation and visual effects industry change very rapidly, and a new technique can revolutionize the way things are done. In this course, students will be introduced to relevant techniques that are considered to be essential at the time of the class. Guest speakers from inside the school and from the industry will cover a variety of topics. Some examples include—rendering, scripting and digital sculpting. Classes will consist of lectures and demonstrations. Labs will consist of time to practice those techniques.

AVE418

### Portfolio

In the Portfolio course students will create the presentation materials that surround the main demo reel piece completed in Reel Production 1 & 2 and will learn how to make successful presentations that address the needs expressed in a variety of job descriptions. Presentation materials created in class will include visual branding, creating reel openers and closers, and the compilation of any traditional artwork. Students will also learn how to layout and implement an artist-friendly portfolio web site. This class will culminate in a finished, professional demo reel on a DVD and a modular portfolio website.



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COLLEGE FOR DIGITAL ARTS

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