

# Computer Animation

## BACHELOR OF FINE ARTS — 180 CREDITS

### PROGRAM FOCUS

#### QUARTERS 1-3

CMAA103  
Digital Imaging

CMAA120  
Maquette Construction

CMAA200  
Introduction to 3D Computer Animation

CMAA201  
Computer Modeling I

CMAA240  
Drawing for Computer Animation and Visual Effects

FNDA105  
Design Fundamentals

FNDA110  
Observational Drawing

FNDA150  
Digital Color Theory

VIAA149  
Figure Drawing I

VIAA151  
Painting I

VIAA345  
Figure Sculpting I

#### QUARTERS 4-6

CMAA140  
2D Animation

CMAA202  
Computer Modeling II

CMAA210  
Pre-visualization: Storyboard & Animatic

CMAA211  
Cinematic Techniques I: Editing Studio

CMAA220  
Texture I: Material and Lighting

CMAA221  
Character Rigging

CMAA241  
Performance and Story Development

CMAA301  
Animation I: Performance

CMAA302  
Animation II: Expression

CMAA303  
Computer Modeling III

CMAA320  
Digital Compositing: Motion Graphics

#### QUARTERS 7-9

CMAA304  
Advanced Digital Compositing

CMAA403  
Introduction Special Effects

CMAA404  
Graphics Programming

CMAA405  
Texture II: Shading Networks

CMAA406  
Film Production Studio

CMAA411  
Advanced Special Effects

VIAA402  
Clothed Figure Drawing

VIAA414  
Animal Imagery and Archetypes

Programmatic Elective I

#### QUARTERS 10-12

CMAA400  
Digital 2D Animation Studio

CMAA410  
Print Portfolio Presentation

CMAA422  
Demo Reel Presentation

CMAA423  
Internship

CMAA490  
Selected Topics in Animation

Programmatic Elective II

Programmatic Elective III

### GENERAL EDUCATION

ARCA106  
History of Architecture

ENCA101  
English Composition I

ENCA102  
English Composition II

HISA200  
History of Animation

ARHA125  
History of Western Art I

ENGA201  
Creative Writing

MATA115  
Applied Mathematics

ARHA126  
History of Western Art II

MATA201  
Collage Geometry

PSYA101  
Introduction to Psychology

OR

PSYA113  
Social Psychology

Humanities Elective

Science Elective

COM112  
Principles of Communication

HISA200  
History of Animation

PSYA202  
Psychology of Personality

General Education Elective I

General Education Elective II

Humanities Elective



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START DATE \_\_\_\_\_

LENGTH OF QUARTER \_\_\_\_\_

BREAKS BETWEEN QUARTERS \_\_\_\_\_

APPROX. HOURS IN CLASS PER WEEK \_\_\_\_\_

APPROX. HOURS OUTSIDE OF CLASS—HOMEWORK \_\_\_\_\_

Please visit our Student Consumer Information page to find the average time to completion for continuously enrolled students for each credential level offered. This data is available at the average credit load, full-time or at full load. Changing programs, beginning programs at the mid-term start date, taking remedial courses, taking time off from coursework, registering for fewer hours or unsuccessful attempts at course completion will increase the total length of the program and overall cost of education from what is disclosed. Transfer credits awarded toward your program will likely decrease the overall length and cost of education.

Course descriptions for elective and general education courses can be referenced in the catalog.

STUDENT CONSUMER INFORMATION:  
<https://www.artinstitutes.edu/miami/student-consumer-information>

This is a sample schedule only. Schedule subject to change without notice at the discretion of the school.

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073019

# Computer Animation (BFA)

## COURSE DESCRIPTIONS

CMAA103

### DIGITAL IMAGING

This course continues the development of digital imaging skills, with an emphasis on advanced techniques in masking, maps, channels, and compositing. *Prerequisite(s): None*  
*Credits: 3*

CMAA120

### MAQUETTE CONSTRUCTION

This course introduces the construction of maquettes specifically for use as reference for 3D modeling but may be applicable to stop motion later. *Prerequisite(s): VIAA345*  
*Credits: 3*

CMAA140

### 2D ANIMATION

This course introduces the student to the fundamental principles of traditional animation. Through the 12 Principles of Animation we will learn to show weight and volume to create effective and compelling animation. *Prerequisite(s): CMAA103 and CMAA240*  
*Credits: 3*

CMAA200

### INTRODUCTION TO 3D COMPUTER ANIMATION

This course introduces 3D applications and reviews their fundamental concepts. It introduces the basic tool sets used for polygonal and NURBS computer modeling. The course will also introduce basic key frame animation on photographs. *Prerequisite(s): CMAA103*  
*Credits: 3*

CMAA201

### COMPUTER MODELING I

Students in this course learn the skills to produce increasingly complex organic and hard surface three-dimensional models in a computer-based environment. *Prerequisite(s): CMAA103 and VIAA149 and ARCA106*  
*Credits: 3*

CMAA202

### COMPUTER MODELING II

This course introduces the tools for modeling inanimate objects by comparing NURBS and polygon modeling techniques. *Prerequisite(s): CMAA201*  
*Credits: 3*

CMAA210

### PREVISUALIZATION: STORYBOARD AND ANIMATIC

This course focuses on applying industry-standard storyboarding and scripting techniques. Content to be covered includes the various purposes and formats of storyboards, the basic terminology and concepts used in storyboarding, and the application of storyboarding techniques to the creation of storyboards with or without a written script. Completed storyboards will be digitized and edited using video editing software. *Prerequisite(s): CMAA240 and CMAA103 or VPXA112*  
*Credits: 3*

CMAA211

### CINEMATIC TECHNIQUES I: EDITING STUDIO

In this course, students will acquire basic knowledge of the elements of digital editing with concentration on industry interface standards. The principles of editing, synch dialog, transitions, storytelling, and sound integration are covered through a series of individual projects. *Prerequisite(s): CMAA210 and CMAA241*  
*Credits: 3*

CMAA220

### TEXTURE I: MATERIAL AND LIGHTING

This course will lead students through the concepts and techniques of texturing geometry as it pertains to the game and movie industries, as well as exploring techniques in matching real-life lighting in 3D software and developing shading networks. *Prerequisite(s): CMAA201 and VIAA151*  
*Credits: 3*

CMAA221

### CHARACTER RIGGING

This advanced studio course focuses on the rigging of characters for performance. Students will solve complex issues of character articulation with an emphasis on skeleton, skin, and binding techniques. *Prerequisite(s): CMAA201 and CMAA220*  
*Credits: 3*

CMAA240

### DRAWING FOR COMPUTER ANIMATION AND VISUAL EFFECTS

This course is designed to give students an understanding of advance principles, elements of design, and drawing techniques used in the field of computer animation and visual effects. Emphasis is placed on using observational skills to create proportionally correct renditions of compositions. *Prerequisite(s): FNDA150 and VIAA149 or GWDA103*  
*Credits: 3*

CMAA241

### PERFORMANCE AND STORY DEVELOPMENT

This course is a study of the components of storytelling, with special emphasis on characterization and theme to enhance animation skills. *Prerequisite(s): ENCA102*  
*Credits: 3*

CMAA301

### ANIMATION I: PERFORMANCE

This is an advanced-level 3D animation course that continues to build on techniques learned from previous modeling and animation courses. Students will have the opportunity to learn how to apply real-life action sequences to characters. *Prerequisite(s): CMAA140 and CMAA202*  
*Corequisites: CMAA320*  
*Credits: 3*

CMAA302

### ANIMATION II: EXPRESSION

This is an advanced-level 3D animation course that continues to build on techniques learned from previous modeling and animation courses. Students will have the opportunity to learn how to create human facial expressions, lip synch, and personality. *Prerequisite(s): CMAA210 and CMAA241 and CMAA301*  
*Credits: 3*

CMAA303

### COMPUTER MODELING III

Students in this course learn the skills to produce complex three-dimensional models in a computer-based environment. Students will explore various techniques of character modeling and texturing to include various approaches to figure construction. *Prerequisite(s): CMAA221*  
*Credits: 3*

CMAA304

### ADVANCED DIGITAL COMPOSITING

This course will explore various techniques for creating and implementing CGI into live action. Emphasis will be placed on creating seamless integration of visual elements. *Prerequisite(s): CMAA211 and CMAA303*  
*Credits: 3*

CMAA320

### DIGITAL COMPOSITING: MOTION GRAPHICS

This introductory course provides an investigation of the compositing process. This is an introduction to the use of titling in the theatrical and broadcast graphics. Techniques for design and implementation will be covered. Students will produce title sequences and montages integrating image manipulation applications and other image processing support. *Prerequisite(s): None*  
*Corequisites: CMAA501*  
*Credits: 3*

CMAA400

### DIGITAL 2D ANIMATION STUDIO

This course will lead students through the fundamentals of 2D design and animation for the web, with the goal of creating a digital online portfolio. *Prerequisite(s): CMAA304*  
*Credits: 3*

CMAA404

### GRAPHICS PROGRAMMING

This introductory course addresses the fundamentals of computer scripting for animation, including programming, logic flow, problem analysis, and the application of a graphical user interface (GUI) to optimize production. Students are provided challenges to be solved through writing a coded set of instructions. *Prerequisite(s): CMAA403 and MATA201*  
*Credits: 3*

CMAA403

### INTRODUCTION SPECIAL EFFECTS

This course introduces new tools, concepts, and techniques. Students apply and implement dynamic simulations to new or existing projects. This course also allows the students to learn some basic compositing techniques between 3D elements and particle systems. *Prerequisite(s): CMAA302*  
*Credits: 3*

CMAA405

### TEXTURE II: SHADING NETWORKS

This advanced course focuses on the creation of computer-generated textures using an advanced rendering engine. Students will investigate advanced techniques in simulating complex characteristics of light on surface using advanced shading networks. Students will create experimental and application-specific shaders. *Prerequisite(s): CMAA403*  
*Credits: 3*

CMAA406

### FILM PRODUCTION STUDIO

This course will guide students through the concepts and the fundamentals of animation production techniques in a group project environment. Students will have the opportunity to learn to design production workflows, manage schedules, assets, and solve technical problems in all project aspects. *Prerequisite(s): CMAA304 and CMAA304*  
*Credits: 3*

CMAA410

### PRINT PORTFOLIO PRESENTATION

This course provides the student the opportunity to review, revise, and consolidate their body of art work in print. By reviewing both traditional and digital portfolios, critiques, and faculty recommendation, students will refine their own portfolios so that they reflect and enhance their individual strengths and target specific job markets. *Prerequisite(s): CMAA511 and CMAA400*  
*Credits: 3*

CMAA411

### ADVANCED SPECIAL EFFECTS

This course will lead students through advanced special effects concepts and will guide them through the implementation of soft/rigid bodies and dynamic simulations using expressions and scripting languages. *Prerequisite(s): CMAA304 and CMAA404*  
*Credits: 3*

CMAA422

### DEMO REEL PRESENTATION

Through this course, students complete the digital portion of their portfolio. The students assess the strengths and weaknesses of their work to augment the final presentation. The course stresses the importance of professional presentation. *Prerequisite(s): CMAA410*  
*Credits: 2*

CMAA423

### INTERNSHIP

This course is a variable-credit course in that the department can choose the amount of credit to award, which is determined by the amount of time needed for the group of students at the time the course is offered. Students complete required hours of work under the close supervision of a design professional to gain an understanding of actual production projects. Sales, marketing, and other aspects of the profession are included. Students have the opportunity to apply their knowledge to actual projects and gain valuable contacts. *Prerequisite(s): Director or Coordinator Approval Required*  
*Credits: 2-3*

CMAA490

### SELECTED TOPICS IN ANIMATION

This is a group project animation class. Topics are based upon important artistic or technological trends and developments in animation. Topics will be addressed as they arise. *Prerequisite(s): CMAA510 and CMAA511*  
*Credits: 3*

FNDA105

### DESIGN FUNDAMENTALS

This introductory course will explore the principles of design, and introduce and develop the creative process. Design elements and relationships will be identified and employed to establish a basis for aesthetic sensitivity and critical analysis. Design will be presented as a tool of communication. *Prerequisite(s): None*  
*Credits: 3*

FNDA110

### OBSERVATIONAL DRAWING

This course involves the observation and translation of three-dimensional form into two-dimensional drawings. Starting with simple shapes and progressing to more complex organic forms, students will build skill levels in composition and line quality through the use of tone, light, and shadow. *Prerequisite(s): None*  
*Credits: 3*

FNDA150

### DIGITAL COLOR THEORY

Introduction to the principles of color and an exploration of color theory as it relates to media. *Prerequisite(s): None*  
*Credits: 3*

VIAA149

### FIGURE DRAWING I

This course introduces the fundamental concepts and techniques of figure drawing, including anatomy, gesture, proportion, line, and value. *Prerequisite(s): See Department Director*  
*Credits: 3*

VIAA151

### PAINTING I

This beginning painting class is designed to introduce the painting medium as a means of recreating three-dimensional space on a two-dimensional surface. Accuracy and objective analysis of color, drawing, and composition are paramount. The class will emphasize technical painting processes. *Prerequisite(s): FNDA110 and ENCA102*  
*Credits: 3*

VIAA402

### CLOTHED FIGURE DRAWING

The figure painting course focuses on painting color, texture, and affects of light on drapery. Use of camera and preliminary sketches will be explored. Composition, color relations and context are also addressed. *Prerequisite(s): VIAA149*  
*Credits: 3*

VIAA414

### ANIMAL IMAGERY AND ARCHETYPES

In this course, the historical and contemporary significance of animal imagery in art will be discussed. Commonly held myths and symbolism of animals and their place in culture will be explored. Field trips will allow students to have the chance to study animals through direct observation. *Prerequisite(s): FNDA110*  
*Credits: 3*

VIAA345

### FIGURE SCULPTURE I

This class will focus on sculpting the figure in clay using live models as reference. Emphasis will be on self-expression and the study of anatomy and proportion. *Prerequisite(s): VIAA146*  
*Credits: 3*

Course descriptions describe the learning opportunities that are provided through the classroom and coursework. It is each student's responsibility to participate in the activities that will lead to successfully meeting the learning outcomes.

### GENERAL EDUCATION REQUIREMENTS

(68 CREDITS):\*

ARHA125	History of Western Art I
ARHA126	History of Western Art II
ARCA106	History of Architecture
COMA112	Principles of Communication
ENCA101	English Composition I
ENCA102	English Composition II
ENGA201	Creative Writing
GE Humanities Electives (2)	
GE Science Elective	
HISA200	History of Animation
MATA115	Applied Mathematics
MATA201	College Geometry
PSYA101	Introduction to Psychology
OR	
PSYA113	Social Psychology
PSYA202	Psychology of Personality
Other GE Electives (2)	

\*Course descriptions for general education and elective courses can be found in the catalog.