

**MATH 215 Support for Pre-Calculus**

2 units, 2 hours lecture (P/NP)

Co-requisite: MATH 1

Review of the core prerequisite skills, competencies, and concepts needed in pre-calculus: Factoring, operations on rational and radical expressions, absolute value equations and inequalities, exponential and logarithmic expressions and equations, conic sections, functions including composition and inverses, an in-depth focus on quadratic functions, and a review of topics from geometry. Intended for students majoring in business, science, technology, engineering, and mathematics and concurrently enrolled in MATH 1. 1701.00

**MATH 216 Support for Trigonometry**

1 unit, 1 hour lecture (P/NP)

Co-requisite: MATH 50

Review of the core prerequisite skills, competencies, and concepts needed in trigonometry: Geometry, transformations of graphs, trigonometric functions and applications, conic sections, polar coordinates including the complex plane and analytic geometry. Intended for students majoring in science, technology, engineering, and mathematics and who are concurrently enrolled in MATH 50, Trigonometry. This course is appropriate for students who are confident in their graphing and beginning algebra skills. 1701.00

**MATH 230, Elementary and Intermediate Algebra for Business or STEM majors**

6 Units

6 hrs lecture (GR).

Prerequisites: MATH 225, 250, 253, or appropriate placement through the multiple measures assessment process.

AA/AS area 4b

A combined course in algebra: Systems of equations; inequalities, graphs and functions; radicals, quadratic polynomials, rational expressions; exponential and logarithmic functions, and problem solving, with emphasis on knowledge skills appropriate for students pursuing a major in STEM (Science, Technology, Engineering, Mathematics) or Business. 1701.00

## MEXICAN AND LATIN-AMERICAN STUDIES

**M/LAT 30A, Survey of Latin-American Films**

3 Units

3 hrs lecture (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 3, 5; CSU area C2;

IGETC area 3B

Critical examination of historical and contemporary film images of Latinos/Americanos as a result of cultural encounters within the United States: Traditional and emerging objectives of film makers and producers; and common themes and cultural elements in films by and about Latinos in the United States. 2203.00

**M/LAT 30B, Survey of Latin-American Films**

3 Units

3 hrs lecture (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 3, 5; CSU area C2;

IGETC area 3B

Critical examination of cinema from throughout Latin America and Spain that relate to Latino cultural experiences: Emphasis on those films that educate viewers about Latino encounters with majority and minority cultures within Latin America. 2203.00

**M/LAT 33, Introduction to Chicana/o and Latina/o Studies**

3 Units

3 hours lecture (GR or P/NP).

Acceptable for credit: UC/CSU

AA/AS area 3, 5; CSU area D; IGETC area 4.

Overview of the field of Chicana/o and Latina/o Studies: History, literature, the arts and material culture, as well as sociological, political, economic, public policy, and philosophical perspectives on the experience of Latinos in the United States. 2203.00

## MULTIMEDIA ARTS Core

All Multimedia Arts course crosswalk can be found at <https://www.berkeleycitycollege.edu/wp/multimedia/multimedia-arts-crosswalk/>.

## Multimedia Arts Core

### Certificate of Achievement

The Multimedia Arts Core Certificate of Achievement offers a foundation of multimedia techniques and theory and prepares students for further coursework and specialization in the strand of their choice.

Career Opportunities

Entry level positions in video production, web design, digital imaging, animation and game design, corporate and independent media organization.

Required courses:	Units
MM/AN 40A Introduction to Game Design	3
MM/MW 1A+1LA Introduction to Web Design+ Lab	3
MM/VI 9A Video Production I: Introduction to Video	4
MMART 3 Introduction to Digital Art	3
<i>Select 6–7 units from the following:</i>	
MM/DI 3+3L Contemporary Color+Lab	3
MM/DI 4+4L Introduction to Photoshop+Lab	3
MM/MW 2+2L Fundamentals of Graphic Visualization+Lab	3
MM/MW 4A+4LA Social Media Marketing and Data Analytics+Lab	3
MMART 1 Design Thinking	3
MMART 110 Scriptwriting and Storyboarding	3
MMART 197 Multimedia Career Preparation	3
MMART 468 Occupational Work Experience in Multimedia Arts	1-4
Total Units:	19–20

## Recommended One-Year Course Sequence

Students can use the following pattern to complete a Certificate of Achievement in Multimedia Arts Core. This is only one possible pattern. If they wish to earn a certificate, you must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Courses	Units
1st Semester/Fall	
MMART 3 Introduction to Digital Art	3
MM/VI 9A Video Production I: Introduction to Video	4
Elective	3
<b>Total</b>	<b>10</b>
2nd Semester/Spring	
MM/AN 40A Introduction to Game Design	3
MM/MW 1A+1LA Introduction to Web Design and Lab	3
Elective	3
<b>Total</b>	<b>9</b>
Program Learning Outcomes	

Upon successful completion of this program, students will be able to:

- Demonstrate entry level skills in multimedia arts through the completion of individual and team projects.
- Collaborate within a diverse team environment.

**MMART 1, Design Thinking**

3 Units

2.5 hours lecture, 1.5 hours lab (GR or P/NP)

Acceptable for credit: UC/CSU

AA/AS area 4c

Design thinking: Building a design research process; problem solving, building prototypes, and creating viable design solutions using ethnography, visualization, storytelling, and experimentation. Not open for credit to students who have completed MMART 199. 0614.00

**MMART 3, Introduction to Digital Art**

3 Units

2.5 hours lecture, 1.5 hours lab (GR or P/NP)

Acceptable for credit: UC/CSU

(C-ID ARTS 250)

AA/AS area 4c

Introduction to Digital Art: Fundamental concepts, practices, and theories of digital art production, integration of traditional design, color, and compositional principles with contemporary digital tools such as scanned resources, vector drawing, bitmap painting, and rendering from 3D models. Not open for credit to students who have completed MMART 130. 0614.40

**MMART 5A, Introduction to Motion Graphics**

3 Units

2.5 hours lecture, 1.5 hours lab (GR or P/NP)

Recommended Preparation: MMART 110

Acceptable for credit: UC/CSU

AA/AS area 4c

Introduction to motion graphics and 2D animation for the current industry standards: Importing source files including photographs, illustrations, video clips and 3D animation; compositing source imagery, keyframing, animating, and effects; compression and outputting for video and web; critical discussion and assessment of work on technical, aesthetic, conceptual, and philosophical level. Not open for credit to students who have completed MMART 152A. 0614.10

**MMART 5B, Intermediate Motion Graphics**

3 Units

2.5 hours lecture, 1.5 hours lab (GR or P/NP)

Recommended Preparation: MMART 5A

Acceptable for credit: CSU

AA/AS area 4c

Intermediate motion graphics and 2D animation for the current industry standards: Compositing source imagery, keyframing, animating, and effects; compression and outputting for video and web; critical discussion and assessment of work on technical, aesthetic, conceptual, and philosophical levels. Not open for credit to students who have completed MMART 152B. 0614.10

**MMART 49, Independent Study in Multimedia Arts**

0.5–5 Units

1.5–15 hours lab (GR or P/NP)

Acceptable for credit: CSU

AA/AS area 4c

In-depth exploration of an area or problem of the student's choice not covered by regular catalog offerings in Multimedia Arts. Student must obtain approval from an appropriate faculty member. For more details, see the section on independent study in the college catalog. 0614.00

**MMART 110, Scriptwriting and Storyboarding**

3 Units

3 hours lecture (GR or P/NP)

Acceptable for credit: CSU

AA/AS area 4c, 4d

Introduction to storytelling as an art: Pre-production planning for linear and interactive multimedia; development of treatments, scripts and storyboards; organization of drama through effective pacing and design. 0614.00

**MMART 122B, From Movies to Multimedia**

3 Units

3 hours lecture (GR or P/NP)

Acceptable for credit: UC/CSU

AA/AS area 3, 4c; CSU area C1;

IGETC area 3A

Analysis of film, animation, video, and other time-based multimedia art forms: Elements of linear and interactive structures; history, aesthetics, and cultural significance of the various forms; impact of digital technologies on production and reception of motion pictures; practices of analysis, interpretation, and criticism. 0612.20

**MMART 123, The Art of Documentary Film**

3 Units

3 hours lecture (GR or P/NP)

Acceptable for credit: UC/CSU

AA/AS area 3, 4c; CSU area C1;

IGETC area 3A

History and analysis of documentary film: Critical and historical approaches to non-fiction film form and content; objectivity and point of view; aesthetics and ethics and the evolving impacts of documentary films on American politics and new technology on the genre. 0612.20

**MMART 197, Multimedia Career Preparation**

3 Units

2.5 hrs lecture, 1.5 hrs lab (GR or P/NP).

Recommended Preparation: MMART 164

Acceptable for credit: CSU

AA/AS area 4c

Career preparation for advanced multimedia students: Resume, interview skills, job searches, networking techniques, professional websites and portfolios or reels. 0614.10

**MMART 468, Occupational Work Experience in Multimedia**

1-4 Units

3.43–17.15 hours lab (GR or P/NP)

Acceptable for credit: CSU

AA/AS area 4c

Supervised employment in Multimedia Arts or a related field: Extension of classroom learning to the job site. The employment must be related to the student's educational or occupational goals. Each 75 hours of paid work equals one unit, while each 60 hours of non-paid work equals one unit. Students can earn at most 16 units through general and occupational work experience courses combined, but may re-enroll in such courses any number of times until the maximum of 16 units is earned. 0614.10

**MMART 505A, Introduction to Motion Graphics**

0 Units  
2.5 hours lecture, 1.5 hours lab (P/NP or SP)  
AA/AS area 4c

Introduction to motion graphics and 2D animation for the current industry standards: Importing source files including photographs, illustrations, video clips and 3D animation; compositing source imagery, keyframing, animating, and effects; compression and outputting for video and web; critical discussion and assessment of work on technical, aesthetic, conceptual, and philosophical level.

0614.10

# MULTIMEDIA ARTS Animation and Game Design

## Associate in Arts Degree

Berkeley City College's A.A. degree in Animation and Game Design prepares students for entry-level jobs in the game and animation fields and provides upgraded skills for those already employed in multimedia and game jobs. The program is interdisciplinary and focuses on developing artistic, animation, critical thinking and computer skills.

### Career Opportunities

Medical visualization, game, pre-visualization, game level design, 3D modeling, technical direction, 2D animation, 3D animation, computer graphics special effects, layout design, look development, character/prop/background design, scene planning/compositing, production, environmental/set design, and visual simulation.

### Required Core Courses for all Multimedia A.A. degrees:

Course	Units
MMART 3 Introduction to Digital Art	3
MM/AN 40A Introduction to Game Design	3
MM/MW 1A+1LA Introduction to Web Design + Lab	3
MM/VI 9A Video Production I: Introduction to Video	4

### Core Electives. Select 6–7 units.

Course	Units
MMART 1 Design Thinking	3
MMART 110 Scriptwriting and Storyboarding	3
MMART 197 Multimedia Career Preparation	3
MMART 468 Occupational Work Experience in Multimedia Arts	1
MM/DI 3+3L Contemporary Color+Lab	3
MM/DI 4+4L Introduction to Photoshop+Lab	3
MM/MW 2+2L Fundamentals of Graphic Visualization+Lab	3
MM/MW 4A+4LA Social Media Marketing and Data Analytics+Lab	3

### Required Courses for Animation+Game Design:

Course	Units
MM/AN 1A Drawing for Animation	3
MM/AN 3A Introduction to 2D Animation	3
MM/AN 20A Introduction to 3D Animation	3
MM/AN 21A Introduction to 3D Modeling	3

### Animation Electives. Select 9 units from the following:

Course	Units
ART 30 Beginning Figure Drawing: Anatomy	2
MMART 5A Introduction to Motion Graphics	3
MM/AN 2 History of Animation	3
MM/AN 3B Intermediate 2D Animation	3
MM/AN 4 2D Digital Animation	3

MM/AN 41A Introduction to Game Scripting	3
MM/AN 55A Animation & Game Studio Practice1	
MM/AN 55B Animation & Game Studio Practice1	
MM/DI 4+4L Introduction to Photoshop+ Lab	3
Major Requirements	40–41
General Education and Electives	19–20
Credit Hours:	(0 Required)
<b>Total:</b>	<b>60</b>

## Recommended Two-Year Course Sequence Beginning in Fall Semester

Students can use the following pattern to complete an Associate in Arts degree in Multimedia Arts—Animation and Game Design. This is only one possible pattern. If they wish to earn an associate degree, you must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Course	Units
<b>1st semester/Fall</b>	
MMART 3 Introduction to Digital Art	3
MM/AN 1A Drawing for Animation	3
MM/VI 9A Video Production: Introduction to Video	4
Core Elective	3
General Education/Electives	3
<b>Total</b>	<b>16</b>

<b>2nd Semester/Spring</b>	
MM/AN 3A Introduction to 2D Animation	3
MM/AN 40A Introduction to Game Design	3
Core Elective	3
General Education/Elective	5
<b>Total</b>	<b>14</b>

<b>3rd Semester/Fall</b>	
MM/AN 20A Introduction to 3D Animation	3
Animation Elective	6
General Education/Elective	6
<b>Total</b>	<b>15</b>

<b>4th Semester/Spring</b>	
MM/AN 21A Introduction to 3D Modeling	3
MM/MW 1A+LA Introduction to Web Design	3
Animation Elective	3
General Education/Elective	6
<b>Total</b>	<b>15</b>

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate entry-level skills in animation through completed portfolio level projects in both visual and written context related to Animation and Game Design.
- Describe, plan and evaluate design principles, aesthetic forms, historical context and social relevance of multimedia works.
- Collaborate effectively within a diverse team environment.

# Animation Level I

## Certificate of Achievement

The Multimedia Arts Certificates of Achievement in Animation are available at Level I and Level II. The Animation Certificates of Achievement are a comprehensive study of 2D and 3D animation techniques, allowing students to choose from a range of 2D and 3D courses in order to prepare for an entry level position in the industry.

### Career Opportunities

Entry level positions in various fields of Animation, Game, Medical Visualization and Simulation as Animators, 3D modelers and pre-visualization artists and preparation for transfer to a 4 year institution.

Required Courses	Units
MM/AN 3A Introduction to 2D Animation	3
MM/AN 20A Introduction to 3D Animation	3
MM/AN 50 Career Preparation for Animation and Game Industries	3

### Select 9–11 units from below:

Course	Units
MMART 5A Introduction to Motion Graphics	3
MM/AN 1A Drawing for Animation	3
MM/AN 1B Storytelling in Animation	3
MM/AN 2 History of Animation	3
MM/AN 3B Intermediate 2D Animation	3
MM/AN 4 2D Digital Animation	3
MM/AN 10 Experimental Animation	3
MM/AN 21A Introduction to 3D Modeling	3
MM/AN 55A Animation and Game Studio Practice	1
MM/AN 55B Animation and Game Studio Practice	1
<b>Total:</b>	<b>18–20</b>

## Recommended One-Year Course Sequence Beginning in the Fall Semester

Students can use the following pattern to complete a Certificate of Achievement in Multimedia Arts Core. This is only one possible pattern. If they wish to earn a certificate, you must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Course	Units
<b>1st Semester/Fall</b>	
MM/AN 3A Introduction to 2D Animation	3
MM/AN 20A Introduction to 3D Animation	3
Animation Elective	3
Total	9

<b>2nd Semester/Spring</b>	
MM/AN 50 Career Preparation for Animation and Game Industries	3

Animation Elective	6	Course	Units
<b>Total</b>	<b>9</b>	<b>1st Semester/Fall</b>	
		MM/AN 3B Intermediate 2D Animation	3
		MM/AN 20B 3D Character Animation	3
		Animation Elective	3
		<b>Total</b>	<b>9</b>
		<b>2nd Semester/Spring</b>	
		MM/AN 25 Animation Production	3
		Animation Elective	6
		<b>Total</b>	<b>9</b>

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate entry level skills in Animation through the completion of individual and team projects.
- Describe, plan and evaluate design principles, aesthetic forms and historical context of Animated works.
- Create complete projects utilizing 2D/3D techniques.

# Animation Level II

## Certificate of Achievement

The Multimedia Arts Certificates of Achievement in Animation are available at Level I and Level II. The Animation Certificates of Achievement are a comprehensive study of 2D and 3D animation techniques, allowing students to choose from a range of 2D and 3D courses in order to prepare for an entry level position in the industry.

### Career Opportunities

Entry level positions in various fields of animation, game, medical visualization and simulation such as animation, concept arts, production assistance, 3D modeling, pre-visualization arts, 3D rigging, and computer graphics, as well as preparation for transfer to a 4 year institution.

Required Courses	Units
MM/AN 3B Intermediate 2D Animation	3
MM/AN 20B 3D Character Animation	3
MM/AN 25 Animation Production	3

### Select 9 units from below:

Course	Units
MM/AN 1B Storytelling in Animation	3
MM/AN 4 2D Digital Animation	3
MM/AN 10 Experimental Animation	3
MM/AN 21B Intermediate 3D Modeling	3
MM/AN 22A 3D Layout and Lighting	3
MM/AN 22B Special Effects for Animation	3
MM/AN 23 3D Rigging	3
MM/AN 24 Performance Animation	3
<b>Total:</b>	<b>18</b>

## Recommended One-Year Course Sequence Beginning in the Fall Semester

Students can use the following pattern to complete a Certificate of Achievement in Multimedia Arts Core. This is only one possible pattern. If they wish to earn a certificate, you must participate in the Student Success Program (Matriculation), which includes assessing academic skills and developing a Student Education Plan (SEP) with a Counselor. This plan will map their sequence of courses to help them complete their degree regardless of the semester they begin classes.

Upon successful completion of this program, students will be able to:

- Demonstrate entry level skills in Animation through the completion of individual and team projects.
- Analyze, document, plan and evaluate a budget for a short production.
- Collaborate within a diverse team environment.

# Game Design Level I

## Certificate of Achievement

The Multimedia Arts Certificates of Achievement in Game Design are available at Level I and Level II. Students who have little background in game design are encouraged to complete Level I prior to Level II. The Game Design Level I Certificate of Achievement provides introductory technical training in game design and programming techniques, allowing students to prepare for positions in the industry such as pre-visualization and game testing.

### Career Opportunities

Pre-visualization, game testing, technical artist.

Required Courses	Units
MM/AN 21A Introduction to 3D Modeling	3
MM/AN 40A Introduction to Game Design	3
MM/AN 50 Career Preparation for Animation and Game Industries	3

### Select 11–13 units from below:

Course	Units
CIS 6 Introduction to Computer Programming	5
MM/AN 22A 3D Layout and Lighting	3
MM/AN 41A Introduction to Game Scripting	3

MM/AN 55A Animation and Game Studio Practice	1
MM/AN 55B Animation and Game Studio Practice	1
<b>Total:</b>	<b>20–22</b>