

# LOS MEDANOS COLLEGE

## ARTICULATION AGREEMENT

**DATE DRAFTED:** September 25, 2017  
**VALID ACADEMIC YEARS:** 2017-18 & 2018-19

**LMC COURSE:** COMSC-110 Introduction to Gaming

**HIGH SCHOOL COURSE:** Introduction to Game Design and Programming

**School:** Antioch High School

**Address:** 700 W. 18<sup>th</sup> St Antioch, CA 94509

**A. COLLEGE COURSE DESCRIPTION:** An introduction to electronic game development with an emphasis on computer animation and programming. Computer animation will introduce the student to an overview of character modeling, rendering, animation, illustrations, storyboarding, and game design. An overview of computer programming will introduce the student to gaming structures, animation techniques, design fundamentals and programming options. Both of these concepts are very important for students entering the Gaming industry.

**B. UNITS:** 3

**C. PRE-REQUISITES:** NA

**D. REQUIRED CONTENT FOR ARTICULATION:**

1. Historical and Technological Components of Electronic Gaming
2. Game Design
  - a. Structures of game design
  - b. Structures of game programming
  - c. Rules of the game
  - d. General design fundamentals
  - e. Game audio
3. Computer Animation
  - a. Character Modeling
  - b. Character rendering
  - c. Animation tools / software
  - d. Character rigging
  - e. Game storyboarding
  - f. Beginning illustration
4. Learning to Program
  - a. Installing ALICE
  - b. Designing and implementation of a program
    - i. Scenarios and storyboards
    - ii. Naming conventions
    - iii. Writing methods
    - iv. Using comments
    - v. Looking at the code
  - c. Putting together the pieces
    - i. Variables
    - ii. Creating math expressions
      1. Order of operations

- iii. Working with Strings and Text
- d. Using functions and control statements
  - i. Boolean values
  - ii. Functions and IF/ELSE
  - iii. Definite and Conditional Loops
  - iv. Repetition: Recursion
- e. Events
  - i. Interactive programming
  - ii. Handling key presses and mouse events
  - iii. Using events in simulations and games
- f. Inheritance
  - i. Lists and Arrays
- g. Debugging

#### **E. REQUIRED COMPETENCIES (PERFORMANCE OBJECTIVES) FOR ARTICULATION**

By the end of the first semester, Students will:

1. Demonstrate the ability to develop a game synopsis, complete with character definition, strategy identification, and story boarding.
2. Demonstrate the effective use of the computer animation components necessary to build a working electronic game.
3. Demonstrate the comprehensive use of the computer programming tools, techniques, practices, and syntax necessary to build a working electronic game.
  - a. Demonstrate the ability to order and calculate arithmetic operations correctly
  - b. Create if-statements and if/else-statements
  - c. Create for-loops and while-loops
  - d. Create algorithms and code for decision structures that demonstrate understanding of initialization statements, control statements, Boolean expressions, and counter statements
  - e. Create programs that use advanced sequence manipulation techniques
  - f. Display understanding of various formal debugging techniques
  - g. Demonstrate the ability to add animation to an existing program
  - h. Demonstrate the ability to divide a program into sets of cooperating functions and other blocks of related code
4. Effectively research and then communicate in written form the requirements, qualifications, and practices of the gaming industry.

#### **F. METHODS FOR END OF COURSE ASSESSMENT:**

Credit by exam: Students must receive a grade of “B” or better on the final exam

- Students will work through the chapter tutorials, then complete the end-of-chapter assignments that will help reinforce concepts learned during class lectures pertaining to the creation of a virtual world using ALICE. Students will answer a series of questions that test their knowledge concerning current trends related to the gaming industry, as well as the ALICE interface, programming terminology, character development, and storyboard creation
- Through the use of multiple choice, fill-in-the blank, and short written answers students will be assessed on the fundamental concepts, terms, and principles of computer game design and the use of the Alice programming environment.
- Students will investigate the job requirements, qualifications, and practices of the gaming industry using information from at least 3 game manufacturers. The paper will analyze the information and provide conclusions as to current job market trends for gaming careers.
- Student Final Project

#### **G. PROCEDURES AND/OR CRITERIA FOR COURSE ARTICULATION:**

1. Complete the Introduction to Game Design & Programming course at Antioch High School with a grade of “B” or better.
2. Complete the LMC “Credit by Exam” procedure with a grade of “B” or better.
3. Apply for admission at Los Medanos College.
4. Register for CATEMA for electronic submission of college credit **OR** obtain copy of high school transcript and articulation agreement and submit to the LMC Office of Admissions & Records.
5. Upon completion of the above, the student will receive on his/her LMC and CCCCDC (California Community College District) transcripts the unit credit for LMC’s Introduction to Gaming course.

#### **H. TEXTBOOKS OR OTHER SUPPORTING MATERIALS**

- Litvin, Gary and Litvin, Maria. Java Methods, 2nd AP Edition. Andover, MA: Skylight
- Learning to Program with ALICE, 3rd Edition
- Publishing, 2011. [www.skylit.com/javamethods](http://www.skylit.com/javamethods)

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**COLLEGE SIGNATURES**

**HIGH SCHOOL/ROP/DISTRICT SIGNATURES**

Kevin P. Horan  
Kevin P. Horan (Oct 3, 2017)

Oct 3, 2017

Kevin Horan  
Date  
LMC Vice President of Instruction & Student Services

Louis Rocha  
Louis Rocha (Oct 10, 2017)

Oct 10, 2017

Louis Rocha  
Date  
Principal, Antioch High School

Ryan Pedersen  
Ryan Pedersen (Sep 29, 2017)

Sep 29, 2017

Ryan Pedersen  
Date  
LMC Interim Dean of Mathematics & Sciences

Michael V. Santos/Andy Cannon  
Michael V. Santos/Andy Cannon (Oct 10, 2017)

Oct 10, 2017

Mike Santos, Ed. D.  
Date  
Director, Program Improvement/Secondary Education

Louie M. Giambattista  
Louie M. Giambattista (Sep 28, 2017)

Sep 28, 2017

Louis Giambattista  
Date  
LMC Computer Science Department Chair/Faculty

Kent McCutcheon  
Kent McCutcheon (Oct 3, 2017)

Oct 3, 2017

Kent McCutcheon  
Date  
Faculty, Antioch High School

Karen Stanton  
Karen Stanton (Sep 28, 2017)

Sep 28, 2017

Karen Stanton  
Date  
LMC Faculty

**LOS MEDANOS  
COLLEGE**

**Cc: Robin Armour, LMC Director of Admissions and Records**  
**Kelly Green, LMC K-12 Liaison**  
**Tiffany Welter, LMC CTE Counselor**  
**School District Educational Services Dept.**  
**High School Principal**  
**High School CATEMA Contact**  
**Upload: LMC High School Articulation webpage**  
**StatewidePathways.Org**