LOS MEDANOS COLLEGE

ARTICULATION AGREEMENT

LMC COURSE: COMSC-051 Java for Programmers, Part 1

HIGH SCHOOL COURSE: Java Fundamentals
School: Antioch High School
Address: 700 W. 18th St Antioch, CA 94509

A. **COLLEGE COURSE DESCRIPTION:** This course is an introduction to Java programming which is used by companies of all sizes as the main programming language to develop various applications and projects worldwide. Students will be introduced to the basic skills needed to write, compile, and run simple Java applications. Topics covered are project designing, object-oriented programming, console applications, graphics applications and many other elements of the Java language.

B. **UNITS:**   3
C. **PRE-REQUISITES: NA**
D. **REQUIRED CONTENT FOR ARTICULATION:**

1. **Your First Java Program**
   Introduction to Programming "Hello World"
   Introduction to Programming
2. **Java Language Basics**
   Intro to Java Programming
   Variables & Data Types
   Decisions
   Loops
   Methods
3. **Introduction to Objects**
   Overview
   Encapsulation
   Think Objects
   Strings
   Arrays
4. **Extending Classes & Objects**
   More About Objects
   Object References
   Inheritance
   Constructors
   Method Overriding
   Inner Classes
   Abstract Classes
   Interfaces
   The Object Class

5. **Java Exceptions**
      Catching Exceptions
      Exception Classes
      Throwing Exceptions
      Creating Exceptions
   6. **Java I/O**
      Text File I/O
      Binary File I/O
      Console I/O Standard
      Console I/O Unicode
   7. **Data Structures**
      Array of Objects
      ArrayLists
      HashMaps
      Data Wrappers
      Program Structure

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

   At the end of the course students will be able to:

   1. Utilize basic object-oriented programming design, terminology, and methods.
   2. Modify, compile, debug, and execute basic Java programs.
   3. Create a simple program to run within a Web browser and Web services at a basic level.
   4. Create a Java Web program, post the program to a web server, and be able to access web pages that incorporate Java applets

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

   Credit by exam: Students must receive a grade of "B" or better on the final exam
   1. Unit Tests
   2. Lab Programming assignments and participation
   3. Final project
   4. Midterm and final exam

G. **PROCEDURES AND/OR CRITERIA FOR COURSE ARTICULATION:**
   1. Complete the Java Fundamentals 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 CCCCD (California Community College District) transcripts the unit credit for LMC's Java for Programmers, Part 1 course.

H. **TEXTBOOKS OR OTHER SUPPORTING MATERIALS**
   1. Java Fundamentals, www.sololearn.com, Pleasanton, CA.
   2. Kölling, Michael. Introduction to Programming with Greenfoot. Upper Saddle River, NJ:
   3. Pearson Higher Education, 2010. www.greenfoot.org/book

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

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COLLEGE SIGNATURES	HIGH SCHOOL/ROP/DISTRICT SIGNATURES

Kevin P. Horan
Kevin P. Horan (Sep 29, 2017) — Sep 29, 2017

Kevin Horan   Date
LMC Vice President of Instruction & Student Services

Louis J. 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 2, 2017) — Oct 2, 2017

Kent McCutcheon   Date
Faculty, Antioch High School

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