# LOS MEDANOS COLLEGE

**ARTICULATION AGREEMENT**

**DATE DRAFTED**: April 10, 2019
**VALID ACADEMIC YEAR(S)**: 2018-19, 2019-2020 & 2020-21

**LMC COURSE:** COMSC-041 "Programming with VisualBasic.Net"
**HIGH SCHOOL COURSE:** Computer Programming
**School:** Heritage High School
**Address:** 101 American Ave., Brentwood, CA 94513

A. **COLLEGE COURSE DESCRIPTION:** This is an introductory programming course using Microsoft Visual Basic.Net (VB.NET). It introduces students to the development of graphically oriented, event driven programs. Students will learn fundamental programming structures, as well as the use of the language to develop web based applications.

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

1. THE COMPUTER

    1.1 Demonstrate a working knowledge of the computer: Computer hardware peripherals, parts, care and handling and operations.

2. THE WINDOWS OPERATING SYSTEM

    2.1 Develop a basic understanding of the Windows operating system by performing file management tasks using common Microsoft Applications.

    2.2 Demonstrate the proper use and care of computer storage media

    2.3 Demonstrate knowledge of Microsoft Visual Basic Integrated Development Environment in order to create applications that are compatible with the Windows Operating System

3. THE PRINTER

    3.1 Demonstrate a working knowledge of the printer: hardware, care and handling and operations.

4. PROGRAM DEVELOPMENT

    4.1 Clearly define

    4.2 Develop a plan

    4.2.1 Develop and apply simple algorithms.

    4.3 Subdivide problems into logical modules.

    4.3.1 Create flowcharts to visually demonstrate the logical subdivisions and flow.

    4.4 Code the sequence of steps in a computer language.

    4.4.1 Code in VISUAL BASIC

    4.4.2 Write interactive Input/Output procedures.

    4.5 Enter the program and have the computer execute the sequence of instructions.

    4.6 Rework the program until accomplishes the required task.

    4.6.1 Debug and expand/enhance the program.

5. PROGRAMMING TOPICS

      5.1 Introduction to VB Programming

      5.2 Program and Graphical User Interface Design

      5.3 Program Design and Coding

      5.4 Variable and Arithmetic Operations

      5.5 Decision Structures

      5.6 Loop Structures

      5.7 Creating Web Applications

      5.8 Using Procedures and Exception Handling

      5.9 Using Arrays and File Handling

      5.10 Incorporating Databases with ADO.NET

      5.11 Multiple Classes and Inheritance

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

The student will:

1. Be introduced to computer programming.
2. Improve problem-solving and critical thinking skills through structured programming.
3. Design and implement fluently coded computer-based solutions from selected problems in an accepted high-level language.
4. Become familiar with ethical issues in computer technology.

## F. METHODS FOR END OF COURSE ASSESSMENT:

TEACHING STRATEGIES AND PROCEDURES

GRADING CRITERIA:

| | |
|---|---|
| Lectures, demonstrations, and hand-outs | Programming projects     20% |
| Programming by imitation | Final exam project     10% |
| Analysis of teacher provided materials | Final exam     10% |
| Study assignments from texts and quizzes | Assessments     60% |
| Classroom discussions | |
| Individual and team programming on selected projects | |

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

1. Complete the Computer Programming course at Heritage High School with a grade of "B" or better (unless otherwise indicated).
2. Complete the LMC "Credit by Exam" procedure **(for this class, it is the high school class final)** 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** complete an LMC HS/Adult Ed. Grade Verification Form , 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 grade of "A", "B" or "P" and the unit credit for the LMC COMSC-041 "course. Transcripts will reflect the grade on the final exam and be notated as *Credit by Exam.

## H. TEXTBOOKS OR OTHER SUPPORTING MATERIALS

Microsoft Visual Basic 2017 for Windows, Web and Database Applications: Comprehensive
By Corinne Hoisington Publisher: Cengage Learning

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| **COLLEGE SIGNATURES** | **HIGH SCHOOL/AEC/ROP/DISTRICT SIGNATURES** |
|---|---|

*Sally Montemayor Lenz, Ed.D.*
Sally Montemayor Lenz, Ed.D. (May 21, 2019)
_____
Sally Montemayor Lenz                                      Date
LMC Interim Vice President of Instruction

*Carrie J Wells*
Carrie J Wells (Jun 3, 2019)
_____
Carrie Wells                                      Date
Principal, Heritage High School

*Ryan Pedersen*
Ryan Pedersen (Apr 22, 2019)
_____
Ryan Pedersen                                      Date
LMC Dean of  Mathematics and Sciences

*Erik Faulkner*
Erik Faulkner (Jun 4, 2019)
_____
Erik Faulkner                                      Date
LUHSD Asst. Superintendent, Educational Services

*Louie M. Giambattista*
Louie M. Giambattista (Apr 17, 2019)
_____
Louie Giambattista                                      Date
LMC Computer Science  Department Chair

*Robert Pardi*
Robert Pardi (May 22, 2019)
_____
Robert Pardi                                      Date
Faculty, Heritage High School

**Cc: LMC Director of Admissions and Records**
  **LMC K-12 Senior Program Coordinator**
  **LMC Pathways Counselor/LMC CTE Counselor**
  **School District Educational Services Dept.**
  **High School Principal**
  **High School CATEMA Contact**

# HHS COMSC-041 Artic 2018-21 FINAL

Final Audit Report          2019-06-04

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