ARTICULATION RENEWAL FORM
2015 – 2016 (Effective Fall 2015 through Spring 2017) (Renew Fall 2017)

High School: Sonora High School
High School Course: Introduction to Programming
Columbia College Course: CCTPG 5 – Introduction to Programming

**Completed by High School Instructor**

A. I have reviewed the current Articulation Agreement for this course with the appropriate Columbia College faculty and wish to report the following:

[ ] I verify that our course listed above has no changes in the title, department name, course number, course content, course standards, or other curricular modification. (Skip Part B and Go to Part C)

I verify that the following changes need to be made: (Check all that apply, fill in the specific change in the space provided and complete Part B and C)

- Title: ________________
- Department Name: ________________
- Course Number: ________________
- Other: ________________

B. I verify that changes have been made to the following: (Current and Updated Course Outline and All Examinations are required for any changes made to this section) (Please attached updated course outline/examination.)

[ ] Course Content [ ] Textbook Change [ ] Course Objectives

[ ] Examination/Portfolio [ ] College Examination

C. Please provide all requested information below:

Textbook Title: ________________

Author: ________________

Publication Date: ________________ Edition: ________________

************************************************************************************************************

High School Instructor: ________________ Date: ________________

High School Chair Signature: ________________ Date: ________________

Columbia College Instructor: ________________ Date: ________________

Columbia College CTE Dean: ________________ Date: ________________
Discipline: COMPUTER SCIENCE

Date Accepted: 5 / 31 / 2012
Renewal due during: Spring 2013
(one-year term agreement)

Articulation Request and Agreement

This request and agreement is submitted for consideration of the following course as an articulated course at Columbia College. Students would receive course credit at Columbia College.

Directions:
1. Use a separate form for each course.
2. Attach the course outline for the course.
3. Attach the course final if course is to be considered for credit.
4. Mail to: Dean of Instructional Services, Career Technical Education
   11600 Columbia College Drive
   Sonora, CA 95370

Completed by High School Instructor

High School/ROP: Sonora High School

Contact Information:

Instructor Name: Brian Miller

Telephone Number: 532-5511 Cell 743-9609 ext: 223

Email address: bmiller@sonorahs.k12.ca.us

Address: 430 N. Washington St
Sonora, CA 95370

High School / ROP Course Title: 0229 Introduction to Programming

High school / ROP Course Description:

why computer General Course Description: In this class, we will discuss how to program graphical computer programs, such as simulations and games, using the Java Programming Language and the Greenfoot environment.

There are several goals in doing this: one is to learn programming, another is to have fun along the way. While the examples we discuss are specific to the Greenfoot environment, the concepts are general: working through this class will teach you general programming principles in a modern, object-oriented programming language. However, it will also show
You how to make your own computer game, a biology simulation, or an on-screen piano.

The emphasis throughout is to make the work we do interesting, relevant, and enjoyable. There is no reason programming has to be dry, formal, or boring. Having fun along the way is okay. We can manage to make the experience interesting and pedagogically sound at the same time. This is an approach that has been called "serious fun" – we do something interesting, and learn something useful along the way.

While it is possible to create simple games quickly and easily in Greenfoot, it is equally possible to build highly sophisticated simulations of complex systems, possibly using artificial intelligence algorithms, agent technology, database connectivity, or anything else you can think of. Java is a very rich language that opens the whole world of programming, and Greenfoot imposes no restrictions as to which aspects of the language you can use. Let's dive in!

<table>
<thead>
<tr>
<th>College Course Title: CCTPG 5</th>
<th>Introduction to Programming</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Units: 3</td>
<td>HS Credits: 10</td>
</tr>
<tr>
<td>College Prerequisite(s): None</td>
<td>HS Prerequisite(s):</td>
</tr>
</tbody>
</table>

Advisories/Recommendations:

Course Content

A. Understanding the Greenfoot environment
B. Objects and classes
C. Return types
D. Parameters
E. Class Diagrams
F. Understanding source code
G. Using methods
H. Making objects move and turn
I. Adding random behavior with a pseudo-random number generator
J. Creating new methods
K. Making your own mp3 sound
L. Adding sound to your game
M. Adding objects to the scenario programmatically
N. Create your own png images
O. Using images in Java
P. Instance variables (fields)
Q. Local variables
R. Assignment
S. Using constructors
T. If/else statement
U. Creating an applet
V. Using the concept of abstraction to create many types of object from one Class
W. For each loop
X. While loop
Y. Using arrays
Z. Using a Vector Class
AA. Using java Library Classes
BB. Simulating Gravity using Newton’s Law
CC. Space invaders re-creation
DD. Using comments appropriately
EE. Threaded coding technique
FF. Collision detection
GG. Boolean and logical Operators
HH. Platform Jumper project

Competencies and Skill Requirements (Use additional pages as necessary)

At the conclusion of this course, the student should be able to:

- Describe programs, programming, applications, and application development
- Describe the functions of and be able to use the intrinsic controls in a VB project
- Create a user-friendly GUI with menus
- Create GUIs that simulate real world events
- Manipulate images
- Use logic to determine the winner of a game.
- Define and use functions and methods
- Change properties during design and run time
- Name controls using the standard VB naming conventions
- Document code with comment statements in a way that makes maintenance by others simple.
- Describe the difference between intrinsic and ActiveX controls and be able to use both
- Build an Option button group within a frame control
- Use the CommonDialog control in an application
- Implicitly and explicitly declare variables and use them in code
- Use arithmetic and comparison operators in code
- Use various code structures in code including ones that are nested
- Use multiple forms
- Understand the purpose of and use an About...dialog box
- Describe the general structure of a database
- Describe database fields, records, and tables
- Create and use an Access database in a VB project.
- Use Data controls and data-aware controls to access a database
- Write a DragOver and DragDrop event procedures
- Understand Visual Basic data types

<table>
<thead>
<tr>
<th>Measurement Methods (include any industry certification or licensure):</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Conventional Tests</strong>: true/false, multiple choice, matching, numeric response</td>
</tr>
<tr>
<td>• <strong>Projects</strong>: students are shown a working Visual Basic project, are given a description and or instructions, and then have to recreate it</td>
</tr>
<tr>
<td>• <strong>Creative Tests</strong>: students are given a list of skills and then have to incorporate them into a project of their own design</td>
</tr>
<tr>
<td>• <strong>Oral Quizzes</strong>: individuals are asked questions at random and answer the question and demonstrate their knowledge to the rest of the class on the big screen</td>
</tr>
<tr>
<td>• <strong>Cooperative group work</strong></td>
</tr>
<tr>
<td>• <strong>Assigned reading from the text</strong></td>
</tr>
<tr>
<td>• <strong>Worksheets</strong>: conventional questions and answers with pen and paper</td>
</tr>
</tbody>
</table>

**In order to receive Columbia College credit, the student must earn a “B” or better in the High School course.**

*Sample Textbooks or Other Support Materials (including Software):*

Introduction to Programming with Greenfoot
Measurement Methods (include any industry certification or licensure):

Sample Textbooks or Other Support Materials (including Software):

| Introduction to Programming with Greenfoot |

| CC faculty Signature: | Date: 5/13/2012 |

[Office use only.]
TOPs Code:  
Internal Tracking Number:  

---

Completed by Columbia College

This portion is completed after CC faculty and H.S. faculty meet and agree on the terms of the articulation agreement.

Department faculty: ☑ Approved ☐ Not Approved

Dean: ☑ Approved ☐ Not Approved

CTE Transition Articulation Officer: ☑ Approved ☐ Not Approved

Admissions & Records notification: ☑ date: 6-11-12

High school notification: ☑ date: 6-11-12