# 8/15/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Software Design and Programming II

**BRCC Course Rubric:** CSCI 1943

**Previous Course Rubric**: CSCI 194

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:**

**CIP Code:** 11.0201

**Course Description:** Offers an intensive capstone of material covered in CSCI 1933 (CSCI 193). Provides a disciplined approach to problem-solving, program design, algorithms, and logic development using higher level language. Introduces elementary data structures; searches, simple and complex sorts; and objects. Intended for computer science majors.

**Prerequisites:**  CSCI 1933 (or CSCI 193)

**Co-requisites:** None

**Suggested Enrollment Cap:** 25

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Use advanced C++ constructs to write advanced C++ programs.

2. Identify advanced data structures.

3. Construct a C++ program that manipulates data structures to solve real-world problems.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Instructor prepared tests and final exam

2. Homework assignments where students will answer questions about the material and write problem solutions

3. C++ programs that:

a. Correctly execute using data provided with the assignment

b. Correctly execute in a separate test run by the instructor

c. Are readable by someone having knowledge of C++ but not necessarily having detailed knowledge of the algorithm. There should be plenty of comments and use of source code formatting to make the logic structure visible

d. Conform to external interface requirements of the assignment. This would include

i. starting a program

ii. how data is entered to the program

iii. how results are output

e. Conform to error handling requirements of the assignment.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Recursion

II. Record structures

III. Classes and Data Abstraction

IV. Inheritance and Composition

V. Pointers, Classes, and Virtual Functions

VI. Overloading and Templates

VII. Linked Lists

VIII. Stacks and Queues