**CSC126 - Introduction to Computer Science**

**Instructor**:              Pierre Socrates Louis-Jacques

**Email:**           pierre.louisjacques@cix.csi.cuny.edu

**Room# & meeting time for lectures & labs:**

                                Monday: 9:05AM - 12:05AM @ 3N-113

                          Wednesday: 9:05AM - 12:05AM @ 3N-113

**Office hours:** Monday, 1:30PM - 3:30PM @ 1N- Teachers’ room

**Required access accounts:**

* + - * Blackboard
      * CUNYFirst.edu
      * Email account to receive any black board updates and emails from the instructor

**Software in campus labs for programming in C++:**

Microsoft Visual Studio Professional 2022 for Windows

**Course materials:**

Find in-class labs, homework, quizzes, exams, sample quiz and

exams, etc. under the course link on Blackboard when they are

available

**Course Description:**

* Computing and information processing
* Basic computer structure
* Programming methodology: analysis, design, documentation, implementation, and evaluation
* Algorithmic approach to problem solving
* Computer solutions of several numerical and non-numerical problems

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| **Week #** | **Relevant chapters** | **Topics** |
| 1 | 1,2 | Overview of computers and Programming Languages |
| 2 | 2 | Basic Elements of C++ |
| 3 | 3 | Input/Output |
| 4 | 4 | Selection Structures |
| 4-5 | 4-5 | Selection Structures |
| 5 | 5 | Repetition Structures |
| 6-7 | 5 | Repetition Structures |
| 7 |  | Exam 1 |
| 8 | 6 | Functions |
| 9 | 6 | Functions |
| 10 | 7 | Arrays |
| 11-12 | 7-8 | 2 Dimensional Arrays, Strings |
| 13 |  | Exam II |
| 14 | 8 | Arrays applications, searching, sorting |

**Text book**

C++ Programming: From Problem Analysis to Program (8th edition) Design by Malik.

**Course Objectives:**

               Upon Completion of the course students should be able to:

                                1.     Understand the basic components of a computer.

               2.     Understand the process of creating a working computer

program (coding, compilation, execution).

               3.     Make an informed decision on the correct data types (char,

bool, int, float) to be used in specific programs.

               4.     Effectively trace a C++ program containing variables, selection

(IF and CASE statements), iteration (WHILE and FOR loops),

functions, and arrays.

               5.     Develop an algorithm in English for a problem, given a written

English specification.

               6.     Create complete C++ programs that solve specific problems,

given a clear specification in English.

               7.     Combine multiple functions to create a complication program in

a top-down design fashion.

               8.     Apply mathematical skills when creating a C++ program.

**Level:    S = Somewhat supported   H = Highly supported**

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| **Student Outcomes for the BS in CS** | **Level** | **Course Objectives Met** | **Method of Proficiency Assessment** |
| (a) An ability to apply knowledge of computing and mathematics appropriate to the discipline | H | 1,2,3,4,5,6,7,8 | Lab assignments requiring programming skills, Exams |
| (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution | H | 3,5,6,7,8 | Lab assignments |
| (c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs | H | 2,3,4,5,6,7,8 | Lab assignments, small in-class projects |
| (i) An ability to use current techniques, skills, and tools necessary for computing practice. | S | 2,6,7 | Various projects and homework assignments |
| (j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. | S | 5,6,7,8 | Interest computation lab, final game project |
| (k) An ability to apply design and development principles in the construction of software systems of varying complexity. | S | 5,6,7 | Lab assignments |

**Grading Policy:**

                The Grade in this course will be based on four quizzes, two in class exams, a departmental final exam, labs, homework, attendance and class participation.

No extra credit. No make-up quizzes or exams for any reason of missing the opportunities. Late labs are not accepted. Homework is accepted if it is one day late but will receive 50% of the actual score. **In addition, you must receive a passing grade (65/100) on the departmental final exam in order to pass the course. If the final exam score is in the range of 60~64, the course grade will be a D, the other scores won't be counted into the weighted average. If the final exam score is >=65, the course grade will be C and above, which depends on the weighted average.**

Attendance & participation:                      10%

(1 point off for each absence regardless the reason of being absent)

               in-class labs:                                         15%

               homework:                             10%

               4 quizzes:                                              15%

               2 Examinations:                                     20%

               1 Final Examination:                              30%

(There is no make-up opportunity for the departmental final exam)

Scores to grades conversion:

                          A>=90, A- 88,89

                          B+ 86,87, B 80-85; B-78, 79

                          C+76,77, C 70-75

                          D 60-69

F<60

CSI’s policy on plagiarism:  
<https://csicuny.smartcatalogiq.com/en/current/Undergraduate-Catalog/Academic-Policies-and-Procedures/Academic-Integrity-Plagiarism-and-Cheating>

FYI - CSI Blackboard Online Services:  
<https://www.csi.cuny.edu/online-resources/office-information-technology-services/technology-training>

FYI - CSI Technology Help Desk:  
[helpdesk@csi.cuny.edu](mailto:helpdesk@csi.cuny.edu)

FYI - CUNY Academic Calendar  
<https://www.cuny.edu/academics/academic-calendars/>