

# Intro to Programming with C++

## Course Goals:

The goal of this class is to give the student an introduction to computer programming using C++. We will strive to cover all of the material presented in a typical CS161 college course. See Portland State's CS161 course as an example:

<http://www.cs.pdx.edu/user/coursedetails/4>

## Course Overview:

1. Introduction to Computers and Programming: History, Hardware, Programming Languages
2. Basic Elements of C++: Data types, Operators, Expressions, Program Style and Form
3. Input/Output: I/O Streams and Devices, Output Formatting, File I/O
4. Control Structures I (Selection): Relational Operators, Boolean Operators, **If...else** Structure, **Switch** Structures
5. Control Structures II (Repetition): **While** Looping Structure, **For** Looping Structure, **Do...while** Looping Structure
6. User-Defined Functions I: Predefined Functions, User-Defined Functions, Value-Returning Functions
7. User-Defined Functions II: Void Functions, Value Parameters, Reference Parameters, Global Variables, Intro to Function Overloading
8. User-Defined Data Types: Enumeration Type, Namespaces, **string** type
9. Arrays and Strings: Intro to Arrays, Character Arrays, Two- and Multidimensional Arrays
10. Applications of Arrays: List Processing (Searching and Sorting), "Vector" type

## **Expectations:**

Computer Programming is designed as a college prep course for responsible, motivated and interested students who have developed sufficient lab skills, study skills, and thinking skills to move quickly through a large and complex subject.

You all know how to behave and cooperate appropriately in class. Consequently, I expect that you will:

1. Come to class prepared. Bring your textbook and pencils to every class.
2. Come to class on time every day. Be seated and quiet when the tardy bell rings.
3. Turn in assignments on time. Assignments are due at the end of class unless otherwise stated.
4. At the end of the class period, make sure that you have logged out of the computer and that the computer is left as you found it. Push in your chair and take trash with you when you leave. Do not assemble by the door.
5. Show respect and common courtesy for all others within the classroom; e.g., raise your hand to be recognized to speak; listen to others; be “contributive, not disruptive”; show proper care of equipment.
6. Ample time is given for completion of written exercises and programming exercises in class. If you complete all of your work before the end of the class, feel free to work on extra credit (if available), assignments for other classes, or whatever else you like (as long as it’s legal and quiet.)
7. Complete the reading at home as assigned. I will assume that you are coming to class having read the materials.
8. Cell phones are turned off and put away when the bell rings or I will confiscate them.
9. iPods and other music devices are acceptable as long as earphones are used and volume is low enough to keep others from hearing it.
10. Computer monitors are to be turned off during lectures and quizzes. Talking is not appropriate during either activity.

If the above are not followed, disciplinary action and/or grade consequences will result.

## **Grading:**

Students are graded on a point / percentage system. Students compete only with themselves to acquire as many points as possible. Total points per quarter are converted to percentage and grade according to the following scale:

90-100 - A 80-89 – B 70-79 - C 60-69 – D 60 and below - F

Scores are determined in approximately equal shares from the following three sources:

- Written exercises
- Programming exercises
- Quizzes

## **Final Exam:**

There will be a comprehensive final exam at the end of the semester.

## **Late Work:**

No late work will be accepted. Once an assignment has been turned in and graded, you may not ask to redo the assignment for a better grade.

## **Make-Up Work:**

Unless other arrangements are made, make-up work must be handed in on the second day following return to school. Assignments due on the day missed must be handed in the day you return. Students will be given the same number of periods to make up assignments as you have been absent. It is the student's responsibility to complete make-up work and schedule the time for making up assignments and lab work.

## **Extra Credit:**

Extra credit may be offered during the quarter but will not be offered during the last week of each quarter.

## **Tardies:**

A phone call to a parent will be made on the third tardy in the quarter. Further tardies will be dealt with according to school policy.

## **Cheating:**

Any student found cheating on an assignment or test will receive no points for the work. Copying another student's work constitutes cheating. Parents will be notified.

E-mailing, texting, IM-ing, or otherwise sharing source code and/or exercise answers with another student is unacceptable and constitutes cheating.

A truly collaborative effort does not constitute cheating.

## **Beginning of Class Procedures (BEFORE the bell rings):**

Sharpen pencils and put all slips needing my signature on the front desk. Put away all materials not pertaining to this class. This includes work for other classes. If you've been absent, ask a classmate for any notes you missed. Check my web page at <http://loh.loswego.k12.or.us/kelsoj> to see what we're doing that day.

## **End of Class Procedures:**

Continue working until the bell rings. If the bell rings while I am finishing up instructions, stay seated until I dismiss you. Getting out of your seat and congregating around the door for the last few minutes of class is not appropriate.

## **Food / Drink in Classroom:**

Food and drinks are not allowed in the classroom. You will not be excused to get a drink in the hall.

## **Textbooks:**

You will be given a textbook to use for the duration of this class. As they are very expensive to replace, I need to ensure that all of them are returned at the end of the semester. Therefore, you will not receive a final grade in this class until your textbook has been returned.

## **Inappropriate Computer Use:**

Any malicious or intentionally harmful use of the computer and/or network in violation of the district's Computer Use Policy will result in referral to administration for disciplinary action, including possible suspension or expulsion from school.

## **Where I can be reached:**

I teach one period (A3) at LO High and the next period (A4) at LHS. When I'm not at one of the high schools, I'm often available in my office which is in the NE corner of the gray building across the parking lot from the swimming pool at LO High.

As I am frequently out of the office, the best way to contact me is via e-mail at [kelsoj@loswego.k12.or.us](mailto:kelsoj@loswego.k12.or.us) for any questions or concerns you may have. If you'd like to schedule an appointment with me outside of class, please do so via e-mail.

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## **Intro to Computer Programming with C++**

I've read and understand the above policies and procedures and realize that failure to follow them may result in disciplinary action and/or grade consequences.

Name (print) \_\_\_\_\_

Name (signature) \_\_\_\_\_

Date \_\_\_\_\_

Book Number: \_\_\_\_\_