

CSE 2050 Programming in a Second Language (3 credits)

Primary instructor: Eraldo Ribeiro

Supporting faculty: Richard Ford

Textbooks and references:

S. Oualline, Practical C++ Programming, 2nd edition. Sebastopol, CA, USA: O'Reilly & Associates, Inc., 2002. (T)

A. Koenig and B. E. Moo, Accelerated C++: practical programming by example. Boston, MA, USA: Addison-Wesley Longman Publishing Co., Inc., 2000. (R)

Course information:

2014-2015 Catalog description: CSE 2050 Programming in a Second Language (3 credits). Introduces a second programming language for computer science majors. Students learn to read and write programs in a second language. The language chosen is one with wide popularity and use. The current language is C++. (Requirement: Instructor approval or prerequisite course.) Prerequisites: CSE 1002.

Prerequisites by topic: Object-oriented program design concepts, dynamic data structures, parsing, formatting and converting data, recursion, basic performance analysis, exception handling.

Place in program: Required. Prerequisite for: CSE 3120 (Architecture) & 4001 (Operating Systems)

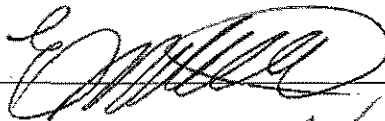
Course outcomes & related student outcomes: The student will be able to

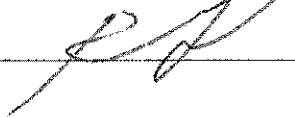
1. Understand and implement simple data structures, such as stack, queue, binary tree, linked-list in C++. (1: Fundamental knowledge)
2. Manage memory allocation and deallocation. (4a: Skillful software construction)
3. Understand object-oriented program design concepts, including inheritance, encapsulation, and polymorphism. (1: Fundamental knowledge)
4. Compare and contrast C++ and Java. (4c: Trade-offs in design choices)
5. Develop computer programs in a Unix operating system environment. (4a: Skillful software construction)

Topics covered:

1. C++ data types, control flow, and I/O (6 hours)
2. Abstract data types in C++ (9 hours)
3. C++ library functions (9 hours)
4. Generic functions (9 hours)
5. Inheritance and dynamic binding (12 hours)

Approved by: Eraldo Ribeiro, Associate Professor & Richard Ford, Professor, Department Head

Signature:  Date: 02/02/2015

Signature:  Date: 2/3/15