COMPUTER SCIENCE (CS)

CS 11 (C-ID COMP 122) 3 units
Introduction to Computer Science- C++
54 hours lecture, 18 hours laboratory
Prerequisite: Elementary algebra or qualifying through the LBCC math placement process.
Recommended Preparation: COSP 7.
Grading: letter grade.
This is an introductory course in the C++ programming language, a problem-solving technique used in modern software technology. The features of C++ that support the development of small and large systems are covered, thus providing a method for prototyping the commercial software development in business and industry.
Transferable to both UC and CSU; see counselor for limitations

CS 12 4 units
Advanced Computer Science-C++
72 hours lecture
Prerequisite: CS 11.
Grading: letter grade.
This is the second course in C++ course offerings, which includes further explanation of C++ areas such as data types, input/output, data structures, pointers and accessing files and object-oriented programming, object hierarchy, inheritance, data abstraction, templates, recursion, operator overloading, linked lists, stacks and queues, and streams.
Transferable to both UC and CSU; see counselor for limitations

CS 21 (C-ID COMP 122) 3 units
Introduction to Computer Science-Java
54 hours lecture, 18 hours laboratory
Recommended Preparation: COSP 7.
Grading: letter grade.
This course introduces Computer Science and the Java programming language. It will cover the basics of programming and software design using a procedure-oriented approach.
Transferable to both UC and CSU; see counselor for limitations

CS 22 (C-ID COMP 132) 3 units
Data Structures and Algorithms
54 hours lecture
Prerequisite: CS 11 or CS 21 or CS 31.
Grading: letter grade.
This course covers the application of software engineering techniques for the design and development of large programs, and will include the topics of data abstraction and structures with their associated algorithms.
Transferable to both UC and CSU; see counselor for limitations

CS 31 (C-ID COMP 122) 3 units
Introduction to Computer Science-Python
54 hours lecture, 18 hours laboratory
Recommended Preparation: COSP 7.
Grading: letter grade.
This is an introductory course in Computer Science covering basic subjects in computer programming using the Python programming language. Topics covered include basic input/output, decision structures, loops, functions, operations on text strings, data collection structures (lists, sets, tuples, and dictionaries), and software design using a procedure-oriented approach.
Transferable to both UC and CSU; see counselor for limitations

CS 51 (C-ID COMP 142) 3 units
Introduction to Computer Architecture
54 hours lecture, 18 hours laboratory
Prerequisite: CS 11 or CS 21 or CS 31 or COSP 8 and MATH 50
Grading: letter grade.
This course covers the organization and behavior of real computer systems at the assembly-language level. The mapping of statements and constructs in a high-level language onto sequences of machine instructions is studied, as well as the internal representation of simple data types and structures. Numerical computation is examined, noting the various data representation errors and potential procedural errors. This course is modeled after the State C-ID COMP 142 course standard.
Transferable to both UC and CSU; see counselor for limitations

CS 61 (C-ID COMP 152) 3 units
Discrete Structures
54 hours lecture, 18 hours laboratory
Prerequisite: CS 11 or CS 21 or CS 31 or COSP 8 and intermediate algebra or qualifying through the LBCC math placement process.
Grading: letter grade or pass/no pass.
This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Sets; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability.
Transferable to both UC and CSU; see counselor for limitations