Computer Science

CS 102 Introduction to Computing with HTML 3.0 units
Acceptable for credit: Transfer to UC, CSU
Advisories: CBOT 100 - Keyboarding
A general education course dealing with how computers work, how they are used and their effects on society. Includes an introduction to web-page design using HTML. (Fall, Spring) (Letter Grade Only)

CS 111 Fundamentals of Programming 1 4.0 units
Acceptable for credit: Transfer to UC, CSU
C-ID Course Number: COMP 122
Advisories: CS 102 - Introduction to Computing with HTML
Prerequisite: MATH 331 - Algebra 2
Basic principles of algorithmic problem solving and programming using methods of top-down design, stepwise refinement and procedural abstraction. Basic control structures, data types, and input/output. Introduction to the software development process: design, implementation, testing and documentation. The syntax and semantics of a modern programming language. (Summer) (Letter Grade Only)

CS 112 Fundamentals of Programming 2 4.0 units
Acceptable for credit: Transfer to UC, CSU
C-ID Course Number: COMP 132
Prerequisite: CS 111 - Fundamentals of Programming 1
Design, implementation, and testing of object-oriented software. Introduction to classes, objects, encapsulation, interfaces, inheritance, polymorphism, algorithms (sort, search, recursion), abstract data types (list, stacks, queues, trees), data structures, pointers, dynamic allocation, traversal using iterators, file I/O, and exceptions. Students will develop applications using class hierarchies and abstract data types. (Fall) (Letter Grade Only)

CS 131 Computer Organization 3.0 units
Acceptable for credit: Transfer to UC, CSU
C-ID Course Number: COMP 142
Prerequisite: CS 111 - Fundamentals of Programming 1
Introduction to computer architecture and assembly language programming. Topics include data representation and conversion, assembly language programming, digital design, and basic processor architecture. (Fall, Spring) (Letter Grade Only)

CS 161 Discrete Structures 3.0 units
Acceptable for credit: Transfer to UC, CSU
Prerequisite: MATH 181 - Calculus 1; and CS 111 - Fundamentals of Programming 1
An introduction to the discrete structures of computing, including propositional and predicate logic, methods of proof, functions, computer arithmetic, algorithm complexity, recursion, graphs, trees, sets and relations, networks, induction, and combinatorics. (Fall, Spring) (Letter Grade Only)

CS 181 Game Programming 3.0 units
Acceptable for credit: Transfer to UC, CSU
Advisories: CS 112 - Fundamentals of Programming 2
Prerequisite: CS 111 - Fundamentals of Programming 1
Elements of games, including theme, game play, and presentation. Basic concepts of programming and how programs control the display of graphics and animation in computer games. The use of sound and artificial intelligence in computer games. Demonstrations and experiments with game programming through the use of examples. (Fall, Spring) (Letter Grade Only)

CS 189 Independent Projects 1.0 - 3.0 units
Acceptable for credit: Transfer CSU
Courses for students capable of independent work who demonstrate the need or desire for additional study beyond the regular curriculum. Enrollment allows students to pursue activities such as directed field experience, research, or development of skills and competencies under faculty advisement and supervision. Independent projects may be earned in most disciplines. Students wishing to enroll in Independent Projects should contact the appropriate instructor identified in the class schedule. If the project proposed is acceptable to that instructor, a contract will be developed. All contracts for these classes must be completed and submitted to the Records Office no later than the end of the second week of the semester. Students may enroll for any combination (unit value) of Independent Projects 189 and/or 389 for a total of four semesters in a specific discipline. Units are awarded depending upon satisfactory performance and the amount of time committed by the student to the course. Allowable units vary according to discipline, and are based on the following formula: 1 unit - 48 hours per semester 2 units - 96 hours per semester 3 units - 144 hours per semester (Letter Grade Only)