

COMPUTER SCIENCE (CSCI)

CSCI 1101. Introduction to Computers & Computer Programming. (3 Credits)

Prerequisite: Exemption from or completion of Learning Support Math and Reading and completion of MATH 1111/1001 with a final grade of 'D' or better. Note: Typing skills are not required, but are extremely useful for this class. Students must have a GPA of at least 2.0 to be considered for the online version of this course. Credit Hours: (3-0-3). An overview of computers and an introduction to programming introducing the history of computing, number systems, data representation, gates and circuits, computing components, von Neumann architecture, machine language, operating systems, networks, text editors, the Internet, email, file storage, simple data types, program control structures, and logic operators.

CSCI 1301. Computer Science I. (3,4 Credits)

Prerequisite: Completion of MATH 1113 or higher, or completion of CSCI 1101 with a final grade of 'C' or better in CSCI 1101. Credit Hours: (3-0-3). The course includes an overview of computers and programming, problem solving and algorithm development, simple data types, arithmetic and logic operators, selection structures, repetition structures, text files, arrays (one-and-two dimensional), procedural abstraction and software design, and modular programming (including subprograms or the equivalent).

CSCI 1301K. Computer Science I. (4 Credits)

CSCI 1302. Computer Science II. (3 Credits)

Prerequisite: CSCI 1301 with a grade of 'C' or better. Credit Hours: (3-0-3). The course includes an overview of abstract data types (ADTs), arrays (multidimensional) and records; sets and strings; binary files; searching and sorting; introductory algorithm analysis (including Big-O); recursion; pointers and linked lists; software engineering concepts; dynamic data structures (stacks, queues, trees).

CSCI 1371. Computing for STEM & Business. (3 Credits)

Prerequisite: MATH 1113 Credit Hours: (3-0-3) Foundations of computing with an introduction to design and analysis of algorithms and an introduction to design and construction of programs for problem-solving in engineering, science, business, and finance.

CSCI 1372. Computing for Engineers. (3 Credits)

Prerequisite: Completion of MATH 1113 or higher Credit Hours: (3-0-3) An introduction to computer programming. Students will gain experience and practice in logical thinking and debugging. The course focus is on developing skills and experience in software development and use of software tools. No prior computer science coursework is required.

CSCI 2102. Visual Basic. (3 Credits)

(Same as BUSA 2120). Prerequisite: CSCI 1101. Credit Hours: (3-0-3). An introduction to programming using Visual Basic with emphasis on designing practical applications for Windows, including problem-solving, algorithm development, and Visual Basic syntax for data types, arithmetic and logic operators, control structures, text editors and data file manipulation.

CSCI 2201. C++ Programming. (3 Credits)

Prerequisite: CSCI 1301, Computer Science I. Typing skills are not required, but are extremely useful for this class. Credit Hours: (3-0-3). A detailed introduction to the concepts of programming logic and algorithms using the C++ Programming Language. Topics include simple data types, arithmetic and logic operators, selection structures, repetition structures, text files, and arrays.

CSCI 2410. Foundations of Database Design. (3 Credits)

Prerequisite: BUSA 2101 or ITEC 2215 or CSCI 1101 Credit Hours: (3-0-3) This foundational course presents terminology, basic concepts, and applications of database processing including file organization and data structures. The course emphasizes database design using various modeling techniques; database implementation using the relational model, normalization, and SQL. Students will design, create and process a database to demonstrate competency in the course content.