COMPUTER SCIENCE (CSC)

CSC 110. Principles of Computer Science. (3 Credits)
Provides a broad introduction to the field of computer science. Introduces design techniques, development of algorithms, and applications of computer science. Includes the idea of abstraction as a problem solving technique. Examines the functionality of computing innovations and computing systems. Discusses the potential impacts of these innovations from a social, legal, and ethical perspective. The assignments in this course require mathematical problem solving skills, algebraic modeling and functions, and use of variables. This s a UCGS transfer course. Lecture 3 hours per week. Total 3 hours per week.

CSC 205. Computer Organization. (3 Credits)
Examines the hierarchical structure of computer architecture. Focuses on multi-level machine organization. Uses a simple assembler language to complete programming projects. Includes processors, instruction, execution, addressing techniques, data representation and digital logic. Lecture 3 hours per week. Total 3 hours per week. Prerequisites: CSC 221.

CSC 215. Computer Systems. (3 Credits)
Examines the hierarchical structure of computer systems. Explores the representation of instructions and data, memory organization/structure, structure of a CPU, programming hierarchy and operating system interactions. Lecture 3 hours per week. Total 3 hours per week. Prerequisite: CSC 221 or equivalent.

CSC 221. Introduction to Problem Solving and Programming. (3 Credits)
Introduces problem solving and implementation of solutions using a high level programming language in a structured programming environment. Includes concepts and practice of structured programming, problem-solving, top-down design of algorithms, a high level programming language syntax, control structures, arrays, and an introduction into object oriented programming. First course in a three-course sequence (CSC 221, CSC 222, CSC 223). The assignments in this course require mathematical problem solving skills, algebraic modeling and functions, and use of variables. Lecture 3 hours per week. Total 3 hours per week.

CSC 222. Object-Oriented Programming. (4 Credits)
Introduces the concepts and techniques of object-oriented programming to students with a background in procedural programming and problem solving. Uses a high-level computer language to illustrate and implement the topics. Second course in a three-course sequence (CSC 221, CSC 222, CSC 223). Lecture 4 hours per week. Total 4 hours per week. Prerequisite: CSC 221 or equivalent, or departmental consent.

CSC 223. Data Structures and Analysis of Algorithms. (4 Credits)
Explores and contrasts data structures, algorithms for manipulating data structures, and their use and appropriateness in writing efficient real-world programming applications. Investigates implementations of different data structures for efficient searching, sorting, and other transformer operations. Third course in a three-course sequence (CSC 221, CSC 222, CSC 223). Lecture 4 hours per week. Total 4 hours per week. Prerequisite: CSC 222 or departmental consent. Corequisite: CSC 208, MTH 288 or equivalent.