

COMPUTER SCIENCE (CS)

CS 160 Computer Science Orientation (4 Credits)

Prerequisites with concurrency: MTH 111 or higher.

Recommended preparation: CIS 120 or CIS 124.

Provides a broad overview of the discipline of computer science. Learn the foundations of computer science such as problem solving and algorithms, programming concepts, and computer hardware. Research careers available in computer science, pathways to computer careers, and reflect on some of the influences computers have had and continue to have on society. Write programs in a variety of programming languages.

CS 161 Computer Science I (4 Credits)

Prerequisites: MTH 112 or MTH 251. .

Recommended preparation: CS 160.

Examines the nature of computer programming; includes discussion of a computer model, methods of problem solving and programming structures; information representation; algorithm construction; object-oriented design using Java.

CS 162 Computer Science II (4 Credits)

Prerequisites: CS 161.

Prerequisites with concurrency: MTH231.

CS 162 emphasizes the development of data structures, algorithm analysis, recursion, and sorting. However we will also explore/review several basic programming constructs, Inheritance, Interfaces, Exceptions, and Files/Streams. A strict emphasis will be placed on software engineering methods; proper program development and attention to program planning and documentation.

CS 260 Data Structures (4 Credits)

Prerequisites: CS 162 and MTH 231.

Covers general-purpose data structures and algorithms, software engineering of these structures, and the application of these engineering concepts to real world problems. Topics covered include managing complexity, complexity analysis, stacks, queues, lists, trees, heaps, hash tables, sets, maps, and graphs.