

Computer Science (CS)

Courses

CS 134 Programming Fundamentals* (4 Hours)

Prerequisites or corequisites: RDG 126 or College Reading Readiness

In this introductory course, students will create interactive computer applications that perform tasks and solve problems. Students will utilize fundamental logic, problem-solving techniques and key programming concepts to design, develop and test modular applications written in an object-oriented programming language. 3 hrs. lecture, 2 hrs. lab /wk.

CS 200 Concepts of Programming Algorithms Using C++* (4 Hours)

Prerequisites: CIS 134 or CS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem solving. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. An appropriate block-structured high-level programming language will be studied and used to implement algorithms. 3 hrs. lecture, 2 hrs. open lab/wk.

CS 200H HON: Concepts/Prog. Algorithms (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

CS 201 Concepts of Programming Algorithms using C#* (4 Hours)

Prerequisites: CIS 134 or CS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem-solving using C#. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. 3 hrs. lecture, 2 hrs. open lab/wk.

CS 205 Concepts of Programming Algorithms using Java* (4 Hours)

Prerequisites: CIS 134 or CS 134 or ENGR 171 or equivalent experience

This course emphasizes programming methodology and problem-solving using Java. Algorithm design and development, data abstraction, good programming style, testing and debugging will be presented. 3 hrs. lecture, 2 hrs. open lab/wk.

CS 210 Discrete Structures I* (3 Hours)

Prerequisites: MATH 171 or both MATH 116 and CIS 134 or CS 134 or appropriate math assessment scores

Upon successful completion of this course, the student should be able to use fundamental discrete mathematics as it relates to computers and computer applications. The student will be exposed to a variety of discrete mathematical topics. The course will include fundamental mathematical principles, combinatorial analysis, mathematical reasoning, graphs and trees, and Boolean logic circuits. 3 hrs. lecture/wk.

CS 210H HON: Discrete Structures I (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

CS 211 Discrete Structures II* (3 Hours)

Prerequisites: CS 210

Upon successful completion of this course, the student should be able to use fundamental discrete mathematics as it relates to computers and computer applications. The student will experiment with a variety of discrete mathematical topics. The course will include fundamental mathematical principles, combinatorial analysis, mathematical reasoning, graphs and trees, and Boolean logic circuits. 3 hrs. lecture/wk.

CS 211H HON: Discrete Structures II (1 Hour)

One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

CS 225 Digital Logic with VHDL* (2 Hours)

Prerequisites: ELEC 125

This course introduces students to the Very High Speed Integrated Circuit Hardware Descriptive Language (VHDL) used to implement digital logic designs with programmable logic devices. Students will learn the different types of programmable logic devices and how to use an industry-standard programming environment to code designs with VHDL. 1hr. lecture & 2 hrs. instructional lab/wk.

CS 236 Object-Oriented Programming Using C#* (4 Hours)

Prerequisites: CS 201

This course prepares students to develop object-oriented, C# applications that solve a variety of problems. Students will apply object-oriented concepts including inheritance, function overloading, and polymorphism and will utilize available classes as well as design their own. Event-driven programming, Windows applications, web development, common data structures, database access, and frameworks will be presented. 3 hrs. lecture, 2 hrs. instructional lab/wk.

CS 250 Basic Data Structures using C++* (4 Hours)

Prerequisites: CS 200 -

Prerequisites or corequisites: CS 210 for students transferring to most four-year computer science programs

This course will cover advanced programming topics using C++. Files, recursion, data structures and large program organization will be implemented in projects using object-oriented methodology. Students will write programs using the concepts covered in the lecture. 3 hrs. lecture, 2 hrs. open lab/wk.

CS 255 Basic Data Structures using Java* (4 Hours)

Prerequisites: CS 205

This course will cover advanced programming topics using Java. Files, recursion, data structures and large program organization will be implemented in projects using object-oriented methodology. Students will write programs using queues, stacks, lists and other concepts covered in the lecture. 3 hrs. lecture, 2 hrs. open lab/wk.