COMPUTER SCIENCE (CPS) - ROCK COUNTY

Courses

CPS 103 COMPUTER FUNDAMENTALS 1 Units
An overview of computers, what they are and how they work. Typical topics include history, hardware, programming languages and operating systems, application software, communications, career opportunities and ethical issues. Also included is an introduction to the campus computing network.

CPS 105 COMPUTER APPLICATIONS 3 Units
Principles & use of computer applications including word processors, spreadsheets, & data bases. May also cover other applications such as telecommunications, graphics, Stat., simulations, or CAI. Does not include teaching of programming. Course may not be taken more than once for degree credit.

CPS 110 INTRODUCTION TO COMPUTER SCIENCE 3 Units
How computers work, communicating with computers, areas of application and significance, simple Algebraic Language programming, elementary data processing and problem solving. Instruction and significant experience in Python.
PREREQ: MAT 103 OR MAT 105 UNREQ: A STUDENT MAY ONLY EARN CREDIT FOR ONE OF THE FOLLOWING: CPS 103 OR CPS 110 OR CPS 130.

CPS 130 INTRODUCTION TO PROGRAMMING 2 Units
The basics of programming in BASIC for beginners. Introductory info on editing, program structure, data types, input, output, calculating, looping and selection. Short programs will be written and tested on a computer.
PREREQ: MAT 103 OR MAT 105 UNREQ: A STUDENT MAY EARN CREDIT FOR ONLY ONE OF CPS 130 OR CPS 110

CPS 216 PROBLEM SOLVING AND PROGRAMMING TECHNIQUES IN C++ 4 Units
Program design using both modular and object-oriented methods. Topics covered to include stream input/output, recursion, multi-dimensional arrays, sorting and searching, pointers and dynamic memory allocation, classes and abstract data types, and operator overloading.

CPS 245 COMPUTER SCIENCE I: OBJECT-ORIENTED PROGRAMMING 4 Units
Introduces the fundamental concepts of programming from an object-oriented perspective. Topics include simple data types, control structures, an introduction to array and string data structures and algorithms, text and binary files, as well as the social implications of computing. The course emphasizes developing fundamental programming skills in the context of a language that supports the object-oriented paradigm.
PREREQ: PRIOR COMPLETION OR CONCURRENT ENROLLMENT IN MAT 110

CPS 255 COMPUTER SCIENCE II: OBJECTS AND DATA ABSTRACTION 3 Units
Continues the Intro from CPS 245 to the methodology of programming from an object-oriented perspective. Through the study of object design, this course also Introduces the basics of human-computer interfaces, graphics, & the implementation of fundamental data structures including lists, stacks, & queues. The course includes a significant software development Proj., with an emphasis on software engineering principles & debugging techniques.
PREREQ: CPS 245 AND MAT 110

CPS 299 INDEPENDENT STUDY IN COMPUTER SCIENCE 1-3 Units
Indp. study under the supervision of an instructor. The work may, for example, consist of advanced Lab investigation into a particular topic or library research & writing of a paper on some subject of interest.
PREREQ: CONSENT OF INSTRUCTOR