

COMPUTER SCIENCE

CSC 117. INTRODUCTION TO PROGRAMMING I. This course requires no previous programming background. Students will learn the use of a programming environment, which includes the program editor, libraries, and compiler. Students will learn the use of basic data types, statements, controls, and structures. A high-level computer programming language will be explored in the context of solving problems. Procedures and functions will be introduced while stressing the concepts of program modularity and top-down design. Students participating in this course must have acquired the skills of sending and receiving attached documents by email and they must be familiar with web browser navigation. Students are expected to access class resources on the Internet daily. It is strongly recommended that students have a computer with available access to the Internet.
4 credits

CSC 118. INTRODUCTION TO PROGRAMMING II. This is a continuation of the basic language features and elementary problem solving of the course, Introduction to Programming I. Criteria for well-formed problem definitions are examined, and increasingly sophisticated problem solving strategies are explored as more advanced programming elements are introduced. Recursion is introduced and compared to iterative solutions in terms of program efficiency and program simplicity. Data files of more complex data types, the use of pointers, dynamic structures, and basic abstract data files are introduced. Top-down development of programming solutions, as well as concepts in program modularity, are further emphasized. The processes of program documentation, production, testing and maintenance are studied. This course establishes a foundation for professional programming and software engineering design skills.
Prerequisite: CSC117.
4 credits

CSC 119. COMPUTER GRAPHIC APPLICATIONS. This course assumes the ability to enter, edit and display text, and focuses on the production and manipulation of graphic images. The student develops skills in the use of software application for painting, desktop publishing, line drawing and animation. Students acquire a working familiarity with computer-based communication systems through the use of electronic mail and electronic conferencing for joint projects and tutorial support. Students participating in this course must have acquired the skills of sending and receiving attached documents by email and they must be familiar with web browser navigation. Students are expected to access class resources on the Internet daily. It is strongly recommended that students have a computer with available access to the Internet.
1 credit

CSC 197,198. SEMINAR IN COMPUTER SCIENCE I, II. These seminars complement other computer science courses by developing concepts that integrate material across course boundaries and by considering new developments in computing and the social context of these developments. The courses emphasize critical thinking and integration of information from a variety of sources, and provide a forum for the student to develop and articulate ideas, concepts and professional opinions.
1 credit each

CSC 239. SCIENTIFIC COMPUTER APPLICATIONS. This course develops understanding and skills in the use of computer applications and software as a tool for scientific work. An ability to enter, edit and display text and numeric data is assumed and the course focuses on the analysis of numeric data, the exploration of numeric and logical relationships, and the integrated use of application software packages to create, maintain and analyze databases. Monitoring of physical systems and acquisition of quantitative data through hardware interfaces is considered and exemplified. Students participating in this course must have acquired the skills of sending and receiving attached documents by email and they must be familiar with web browser navigation. Students are expected to access class resources on the Internet daily. It is strongly recommended that students have a computer with available access to the Internet.
2 credits

CSC 240. HUMAN-COMPUTER INTERFACE DESIGN. An introduction to Human-Computer interaction, the theory of user interfaces, and the application of user interface theory to software design and engineering. The following topics are emphasized: input/output devices,

characteristics of user interfaces, human factors, and programming tools for constructing user interfaces.
Prerequisite: CSC117
2 credits

CSC 241. INTRODUCTION TO COMPUTER ARCHITECTURE AND DIGITAL SYSTEMS. The representation and processing of data by logical circuits are developed from principles of Boolean logic and binary arithmetic. A basic model of a computer CPU is extended to alternative bus architectures and approaches to I/O and memory access. Execution cycle processes are developed and alternative instruction sets are compared. Parallel, multiprocessor and distributed processing approaches are explored.
Prerequisite: CSC117
4 credits

CSC 242. DATA STRUCTURES. An introduction to data structures, program specification and design emphasizing abstract data types and their implementation. Arrays, lists, queues, trees, and graphs will be examined along with their implementation for specific applications. Set operations involving abstract data types will be covered. A series of searching and sorting techniques using various data structures will be analyzed looking at efficiencies based on memory and run-time.
Prerequisite: CSC118
4 credits

CSC 243. DIGITAL COMMUNICATIONS AND NETWORKS. This course establishes fundamental networking principles in connectivity, transmission, addressing and network management. Analysis and comparison of specific systems illustrates application of principles, and students acquire hands-on skills in the implementation, operation and maintenance of networks. User interfaces and information resources available through the Internet are explored and societal implications of communications and networks considered.
Prerequisite: CSC117 or CIS300
4 credits

CSC 250. OPERATING SYSTEMS. An introduction to the basic principles of operating systems with emphasis on multiprogramming, resource allocation, memory management, process scheduling and file input and output. Basic operation control language, system utilities and their various techniques will be discussed.
Prerequisites: CSC118, CSC241, CSC242; Corequisite: CSC243
3 credits

DIRECTED STUDY (DSY)

DSY 221, 222, 223 DIRECTED STUDY I/II/III

Open courses permitted students to pursue study in a specific area not accommodated in regular courses. The student designs the course in consultation with the supervising professor. Students intending to take one of these courses must obtain approval from the Dean.

1, 2, or 3, credits

DUTCH

DUT 101-102. ELEMENTARY DUTCH I & II. For students with no previous knowledge of Dutch and who wish to acquire a sound basis for the active command of the language. The first part of the course is devoted largely to aural training in the language and to the study of fundamental language concepts. Later in the course students are introduced to cultural reading material with a view to increasing their oral and aural skills. Simple written exercises designed to increasing command of the language will also be given.
4-4 credits

DUT 201-202. INTERMEDIATE DUTCH I & II. This course emphasizes speaking and understanding Dutch. The primary objective of this course is the development of further development of communication skills through grammar drills. The emphasis is on speaking and understanding Dutch, comprehension, pronunciation, vocabulary and conversation. Drills to develop the ability to understand spoken and written Dutch.
Prerequisite: Dutch 102 or successful completion of the Advanced Placement Test.
3-3 credits