# **COMPUTER SCIENCE (CSC)**

#### CSC 1005 | Computer Literacy

# Lecture Credit: 3

Introduces students to current technologies. Special focus on ensuring students become technologically competent and computer literate. Emphasis is placed on technology fundamentals and terminology through the evaluation of hardware and software. Provides students with a working knowledge of operating system use, file management and security. Introduces the internet as a research and communication tool. Application software is covered to ensure the fundamental computer skills for personal, academic and business use are obtained.

# CSC 1019 | Introduction to Programming

Lecture Credit: 3

Focuses on a general introduction to computer programming. Emphasizes the design and implementation of structured and logically correct programs with good documentation. Focuses on basic programming concepts, including numbering systems, control structures, modularization, and data processing. A structured programming language is used to implement the student's program designs.

# CSC 1050 | Visual Basic Programming: 6.0

Lecture Credit: 3

Introduces programming and applications development for the Microsoft Windows Programming environment using Visual Basic 6.0.

# CSC 1060 | Computer Science I: (Language)

Lecture/Lab Credit: 4

Introduces computer science and programming, focusing on algorithm development, data representation, logical expressions, sub-programs, and input/output (IO) operations through a high-level programming language. Includes intensive hands-on computer work to reinforce understanding and apply these concepts.

Prerequisite: CSC 1019 or CSC 1020 or CSC 1001 or CSC 1010 or MAT 1340 (or higher) with a grade of C or better Corequisite: MAT 1340 or higher

Note: CCD does not offer CSC 1020. Please see your advisor for more information.

#### CSC 1061 | Computer Science II: (Language) Lecture/Lab Credit: 4

Applies object-oriented methodology through a high-level programming language, expanding upon algorithm development and problem-solving techniques introduced in Computer Science I. The emphasis is on practical experience in data structures and the design and implementation of substantial software projects.

Prerequisite: CSC 1060 with a grade of C or better

#### CSC 1065 | Discrete Structures

Lecture/Lab Credit: 4

Prepares students for a fundamental understanding of computing and computer science. Includes set theory, boolean algebra, relations, functions, graph theory and techniques for formal reasoning.

#### CSC 1075 | Special Topics

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Note: Special topics courses range from 0-12 credits and vary in learning type. Please see your program chair for more information about your options.

#### CSC 2017 | Advanced Python Programming Lecture Credit: 3

Advances problem-solving techniques utilizing object-oriented methodology in Python. Introduces practical applications, including developing graphical user interface applications, implementing data persistence, and utilizing an advanced Integrated Development Environment (IDE). Includes unit testing, distribution of a Python package, and fostering a comprehensive understanding of real-world programming scenarios.

**Prerequisite:** CSC 1060 or (CSC 1019 or CSC 1020 or CSC 1001 or CSC 1010) and MAT 1340 (or higher) with a grade of C or better

#### CSC 2025 | Computer Architecture/Assembly Language Programming Lecture/Lab Credit: 4

Covers how a computer operates and the relationship between machine code and the primary computer components. The course explores the design of the processor, registers, memory, and various types of storage. Assembly language is used for computer processes commands and how programming languages use memory addresses. Overview of architecture that is in development will be discussed.

**Prerequisite:** CSC 1061 with a grade of C or better **Corequisite:** CSC 1061

# CSC 2034 | C++ Programming

Lecture/Lab Credit: 4

Starts with basic differences between C++ and other programming languages and progresses to programming advanced C++ concepts such as operator overloading, friends, references, namespaces, pointers and dynamic arrays, templates, streams and file I/O, recursion, polymorphism, exception handling and Standard Template Library. The course covers large programs that are coded implementing object-oriented design principles such as classes and objects, polymorphism, encapsulation, composition, inheritance and templates.

Prerequisite: CSC 1061 with a grade of C or better Corequisite: CSC 1061

# CSC 2040 | Java Programming

Lecture Credit: 3

Introduces the Java programming language and covers basic graphics, events/procedures, user interface, and libraries. Enables the student to write and execute a variety of Java programs. Incorporates Java Applets into HTML.

Prerequisite: CSC 1060 or CSC 2017 with a grade of C or better

# CSC 2046 | Mobile App Development

Lecture Credit: 3

Learn how to develop mobile apps using key features and frameworks. Students will learn application design and development using a mobile development platform software development kit (SDK) and corresponding programming language. Main features include: handling UI triggered and touch events, data management, simple and complex UI views, drawing, location and application settings.

Prerequisite: CSC 1060 with a grade of C or better