



COMPUTER SCIENCE EDUCATION

CS-101 Intro To Computer Science

This course is for adults and high schoolers with no programming experience. Taking this course is a great way to learn new and valuable skills in today's tech-driven society. Our focus will be on mobile app development and an introduction to Python, a very popular programming language. We will explore the foundations of programming while learning the fundamentals of App Inventor, Thinkable, Scratch, and Python. By the end of the course you will be able to write your own basic apps, programs, and games.

Prerequisite: None

Offerings: 4-Week (Boot Camp), 8-Week (Accelerated), 16-Week (Semester)

CS-104 Block-Based Programming

This course explores the fundamentals of programming, using blocks to develop your project instead of code. Scratch, a popular block-based programming language, is used to look deeper into conditionals, loops, lists, and procedures. Students will be able to create their own games and animations by the end of the course.

Prerequisite: CS-101 is encouraged, but not required

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-111 Mobile App Development With Thinkable

In this course, students learn the principles of iOS and Android mobile app development using Thinkable, a block-based programming platform. Basic programming and design concepts will be explored. Students will learn the app design process with the ability to post their finished apps to Apple's App Store and/or the Google Play Store.

Prerequisite: CS-101 is encouraged, but not required

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-121 Google Workplace With Docs, Sheets, Slides, Forms

This is an introductory course to some of Google Workplace's most common apps including Google Docs, Google Sheets, Google Slides, and Google Forms. Whether for personal or business use an understanding of these apps can improve productivity and collaboration.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-122 Advanced Google Workplace

This course is for the working professional that wants to use Google Docs, Google Sheets, Google Slides, and Google Forms to their full-capacity. Students explore the powerful features of these applications and how to use them to their full potential.

Prerequisite: CS-121 or Administrative Approval

Offerings: 4-Week (Boot Camp), 8-Week (Accelerated), 16-Week (Semester)

CS-131 Digital Design

This course is for adults and high schoolers without graphic, web design, or animation experience. Topics and projects include graphic design (logos, flyers, social media posts), web design (business, personal), photo editing, mobile app design, and animation. We will learn design principles and techniques that are used to engage and attract users to a design.

Prerequisite: None

Offerings: 4-Week (Boot Camp), 8-Week (Accelerated), 16-Week (Semester)

CS-135 3D Computer Graphics

This course introduces students to the principles of 3D creation using Blender. Topics include modeling, rigging, animation, simulation, rendering, compositing and motion tracking, video editing, and 2D animation pipeline.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-151 Database Design With SQL & NoSQL

This course explores the importance of and techniques of storing organized information in databases. Both relational and document-oriented databases will be examined using MySQL (SQL) and MongoDB (NoSQL) database management systems.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-201 Computer Science I With Python

This course explores the Python programming language and Computer Science principles. Programming topics covered include: conditionals, loops, lists, functions, simulations, and popular modules. This course builds a student's understanding of program design and development, computational logic, and the process of identifying/fixing coding errors.

Prerequisite: CS-101 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-202 Object-Oriented Programming With Python

This course explores object-oriented programming (OOP) and how it differs from procedural programming. Students will learn about classes and how to create objects from those classes that interact with each other. Other topics include inheritance, polymorphism, encapsulation, and abstraction.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-203 Python For Data Science

This course explores some of the most popular modules used in Python for data science. These include NumPy, Pandas, Matplotlib, TensorFlow, Keras, and SciPy. Data science's relation to data mining, machine learning, and big data will be a focus of this course.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-204 Python And The Internet

This course explores some of the most popular modules used in Python for web scraping. These include Requests, Selenium, BeautifulSoup, and Scrapy. Students will learn how web scraping allows users to extract data from websites and how to organize/use that data.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-211 Intro To C++

This course explores the C++ programming language. Programming topics covered include: conditionals, loops, arrays, and functions. This course builds a student's understanding of program design and development, computational logic, and the process of identifying/fixing coding errors.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-215 Intro To HTML & CSS

This course explores how to give structure and style to web pages using HTML and CSS. HTML is the standard markup language for websites and can be used to create your own website. CSS is used to make an HTML document look nice and how elements should be displayed.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-216 Intro To Javascript

This course explores the Javascript programming language. Javascript allows programmers to make their websites interactive. A basic understanding of HTML and CSS is required.

Programming topics covered include: conditionals, loops, arrays, and functions. This course builds a student's understanding of program design and development, computational logic, and the process of identifying/fixing coding errors.

Prerequisite: CS-215 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-221 Intro To Swift

Students will learn the basic syntax of the Swift programming language while using the XCode IDE. Swift is used for macOS, iOS, watchOS, tvOS, and all other Apple products. Programming topics covered include: conditionals, loops, arrays, and functions. This course builds a student's understanding of program design and development, computational logic, and the process of identifying/fixing coding errors.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-222 iOS App Development With SwiftUI

This course explores iOS mobile application development for iPhones and iPads. SwiftUI will be used to design your app's user interface to include views and controls like buttons, labels, textboxes, images, etc. Students will also learn how to publish their completed apps to the App Store.

Prerequisite: CS-221 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-225 Intro To Ruby

This course explores the Ruby programming language, a language used primarily for building web applications. Programming topics covered include: flow control, loops, and arrays. This course builds a student's understanding of program design and development, computational logic, and the process of identifying/fixing coding errors.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-241 Intro To Networking

This course explores the fundamentals of networking technologies, implementing/managing networks, network devices, and troubleshooting common problems.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-251 Computer Science II With Java

This course explores the Java programming language, object-oriented programming (OOP), and how it differs from procedural programming. Students will learn about classes and how to create objects from those classes that interact with each other. Other topics include inheritance, polymorphism, encapsulation, and abstraction.

Prerequisite: CS-201 or Administrative Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-261 Intro To Linux

This is an introductory course to Linux, a family of open-source operating systems. The Ubuntu Linux distribution will be used on a VirtualBox virtual machine. Some of the covered topics include command line essentials, file permissions, customization, and service configuration.

Prerequisite: None

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-271 Game Design With Scratch

Diving deeper into Scratch, this course is for students who want to build more advanced games for the Scratch Community. The development process will be explored in detail from an original idea to deployment and versioning.

Prerequisite: CS-104 or Department Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)

CS-275 PostgreSQL Database Management

This course explores PostgreSQL, an open-source database management system. The pgAdmin management tool will be used in learning about PostgreSQL's architecture, reliability, data integrity, robust feature set, and extensibility.

Prerequisite: CS-151 or Department Approval

Offerings: 8-Week (Accelerated), 16-Week (Semester)