

# C# Certificate Programs

## C# Programming Certificate

The C# Programming Certificate was designed by professional developers, managers and programmers to target the skills in demand by employers today. The certificate program leads the student through three levels of C# development classes, as well as additional offerings in design and development theory. Labs typically make up about 30% of the class time. The certificate includes a capstone project, designed and developed by the student to demonstrate skills learned.

### REQUIRED COURSES

121 hours total

Introduction to Programming using C#	27 hours
C# Programming: Level 1	30 hours
C# Programming: Level 2	30 hours
C# Programming: Level 3	30 hours
C# Programming Certificate Capstone	4 hours

### ELECTIVES

Choose one class from the following:

Algorithms in .NET	24 hours
Object-Oriented Design	12 hours
Programming with Design Patterns	24 hours

### FOR MORE INFORMATION:

- Get full course and schedule information at [www.gotobcc.com/ce/C-Sharp](http://www.gotobcc.com/ce/C-Sharp)
- Attend a free C# Certificate information session. Call (425) 564-2263 for dates
- Questions about the program? Contact Computer Programs at (425) 564-4005  
Register by phone at (425) 564-2263 or online at [www.gotobcc.com](http://www.gotobcc.com)

## C# Web Development Certificate

This certificate program is designed for those who have obtained their C# Programming Certificate. The C# Web Development Certificate provides the opportunity to learn the advanced skills needed to succeed in today's .NET Web-based industry. Students will build on the skills learned in the programming certificate to design, develop, implement, and deploy C# Web-based applications in a variety of architectural configurations. Labs typically make up 30% of the class time. The certificate includes a capstone project, designed and developed by the student to demonstrate skills learned.

### REQUIRED COURSES

31 hours total

Prerequisite: Completion of C# Programming Certificate

ASP.NET	27 hours
C# Web Development Certificate Capstone	4 hours

### ELECTIVES

Choose one class from the following:

JavaScript	24 hours
Silverlight	7 hours

## C# Application Development Certificate

This certificate program is designed for those who have obtained their C# Programming Certificate and are interested in focusing on the desktop application development industry. The program leads students through user interface design and development, and focuses on current technologies, including Windows Presentation Foundation. Labs typically make up about 30% of the class time. The certificate includes a capstone project, designed and developed by the student to demonstrate skills learned.

### REQUIRED COURSES

31 hours total

Prerequisite: Completion of C# Programming Certificate

Windows Presentation Foundation	27 hours
C# Application Development Certificate Capstone	4 hours

## CONTINUING EDUCATION

## C# Certificate Programs

In-demand skills for  
today's software industry



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## REQUIRED COURSES

### Introduction to Programming using C#

This hands-on course is ideal for beginning programmers who want to learn programming in a Windows environment. Students learn about controls, variables, constants, dialog boxes, menus, lists and loops. The class incorporates basic concepts of programming, problem solving, and programming logic and design techniques into an understandable format for beginning students. Prerequisites: Windows XP Introduction and file management skills are required, along with Basic Programming Essentials class or equivalent.

### C# Programming: Level 1

Dive into the .NET world with this fundamentals class. Topics include conditional statements, objects, structures, arrays, classes, inheritance, exception handling, string formatting, file handling, and language fundamentals. Prerequisite: Introduction to Programming using C# or equivalent knowledge and experience.

### C# Programming: Level 2

Explore advanced technologies in the .NET framework. Topics include interfaces, delegates, events, operator overload, asynchronous programming, reflections and attributes. Class includes lab time for hands-on practice. Prerequisite: C# Programming: Level 1 or equivalent.

### C# Programming: Level 3

Expand your study of .NET programming into more advanced concepts. Students learn about assemblies, interoperability, remoting, .NET and Winforms. Class includes many interactive lab exercises to reinforce skills. Prerequisite: C# Programming: Level 2 or equivalent.

### ASP.NET

An introduction to ASP.NET using C#, with plenty of hands-on examples to illustrate how ASP.NET works. Students learn database access, error handling, managing session information, data binding, tables, list boxes, debugging, cookies, repeaters, and security. Prerequisites: XHTML: Level 1 and 2 and C# Programming: Level 1.

### Windows Presentation Foundation

This course will provide you with an introduction to Windows Presentation Foundation (WPF) using C#. WPF is Microsoft's latest technology for developing user interface (UI) elements for desktop and Web applications based on the .NET Framework 3.5 runtime. WPF integrates traditional UI tools, graphics, multimedia, and animation in new and exciting ways. Topics include basic form design, data templates, control templates and animation. Prerequisite: C# Programming: Level 3 or equivalent.

### Certificate Capstone

The final capstone project utilizes all the skills learned throughout the C# Programming certificate, and is customized to each student. This project will form a central part of your professional portfolio. This is an individualized project in which you can expect to spend as much as 30 hours outside of class in development. You'll meet with an instructor for two hours at the start and have an evaluation session in 90 days for your final project assessment. Prerequisite: Completion of all required courses.

## ELECTIVES

### Algorithms in .NET

This course provides an introduction to algorithm techniques and data structure to new .NET developers, targeting those with development experience but no formal computer sciences background who want to create tools using C#. A good refresher on structured coding, the course includes hands-on exercises. Topics include strategies used for sorting, binary searching, stacks, queues, dynamically sized arrays, parsing numbers and strings, lists, and binary trees. Prerequisite: C# Programming: Level 1 or C# for Testers.

### JavaScript

JavaScript is the enabling technology behind Web 2.0 and AJAX. Study core language constructs, the document object model (DOM) and custom objects. Topics: function, date, array, strings, RegExp, math, document, node, element and attribute objects; HTML form manipulation; cookies; event binding/handling; prototype-based inheritance; DHTML; and multiple script debugging. Prerequisites: XHTML: Level 1 and 2 and Introduction to Programming using C#. Recommended: Cascading Style Sheets: Level 1.

### Object-Oriented Design

Learn object-oriented design in preparation for studying any type of object-oriented programming (e.g., VB.NET, C++, C#, Java). Topics include the differences between procedural and object-oriented programming, defining classes, abstraction, objects, encapsulation, inheritance, and polymorphism, using the UML to model and develop a class diagram, and building objects using types of composition. Prerequisites: Windows and PC basics. Recommended: Introduction to Programming using C#.

### Programming with Design Patterns

A design pattern is a document that describes a general solution to a design problem that recurs repeatedly in many projects. Students will learn how to adapt pattern solutions to their specific project. Design patterns lend power and utility to programming through their use in successful solutions. Prerequisite: C# Programming: Level 1 or equivalent.

### Silverlight

Using Silverlight, a Web-based digital video technology, designers are able to prepare media for encoding and distribution, and create W3C standards-compliant sites. Silverlight is a cross-browser, cross-platform plug-in for delivering media and rich interactive applications for the Web. In this overview the topics are: hosting in the browser, the tools and using Silverlight on the server. Prerequisite: Familiarity with .NET and building Web applications.

In-demand skills.  
Professional instructors.  
Flexible schedule.



- 30% of class time is hands-on lab work
- All instructors are experienced professionals currently working in the field
- Evening and weekend classes are tailored to working professionals

The C# programming curriculum was designed by professional developers, managers, and programmers to provide the skills most in demand in the software industry today. The Bellevue College programs emphasize learning by doing, and utilize extensive lab exercises. Our flexible program is offered on your schedule: start any time you like and complete at your own pace, taking as few as one to two classes a week. Programs can be completed in as few as ten months, or as long as three years.

### ATTEND A FREE INFORMATION SESSION

Meet with faculty for an overview of the program, the courses that best meet your career goals, and how to get started.

FOR COMPLETE COURSE AND  
SCHEDULE INFORMATION GO TO:

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