

# Training Catalog

## Hands-On Training

Our students spend 50% of class time performing hands-on lab exercises that build competence, confidence and productivity.

## Experienced Instructors

Our instructors average over 10 years of industrial teaching experience and are cross-trained in multiple related technologies.

## Class Guarantee

If you're not totally satisfied for any reason, simply withdraw before the second day of any class and you will receive a 100% refund.



**Programming Academy is a national technical training provider offering a comprehensive range of IT courses. Our instructor-led courses focus on maximizing your skill level and retention through an emphasis on highly interactive labs. We make sure you will be competent and productive when returning to the office.**

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## About Us

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Programming Academy is a national technical training provider offering a comprehensive range of IT courses, covering over 25 different subject areas, including system administration and programming. Our instructor-led courses focus on maximizing your skill level and retention through an emphasis on highly interactive labs. We make sure you will be competent and productive when returning to the office.

### 👉 **Task-Oriented, Cross-Platform Training**

Our courses emphasize task-oriented, not product-oriented training. Because our instructors have cross-platform knowledge and experience, you'll get the full picture – not just how to use a particular tool, but the issues involved in using multiple tools in today's open environments, including practical design, architecture, and coding issues.

### 👉 **Small Class Sizes, Exceptional Curriculum and Courseware**

Remote class sizes are kept small in order to provide you with more personalized attention, more focused content, and greater access to instructors for problems and questions. We've built our materials and curriculum to reflect the needs of our students as they have communicated them to us.

### 👉 **Many Training Programs to Choose From**

Our extensive offerings include introductory and advanced courses in Java, Mobile App Programming, .NET Programming, SharePoint, SQL, UNIX/ Linux, Web Development, Windows and more. Because we focus on advanced programming skills, you'll find a greater selection of advanced training than at most other training centers

### 👉 **Skilled Instructors Who Are Professionals in Their Fields**

In addition to being seasoned professional trainers, our instructors also have many years of training and industry experience working in their respective fields. Practiced developers, software engineers, and system administrators, they understand the challenges you face in your job and have first-hand knowledge of the skills you need to succeed.



**Live, Remote  
Attendance**



**On-Demand  
Streaming**

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## Terms and Conditions

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### ⊕ Tuition Payment and Refund Policy

SST accepts company check, electronic funds transfer (EFT) or corporate credit card for payment. Tuition for open-enrollment courses is due in full prior to the start date of the class, with the exception of students from government agencies for which we have a valid purchase order.

Tuition includes all course materials. Students may withdraw before the second day of class to receive a 100% refund, provided course materials are returned to the instructor. Prorated refunds may be granted for withdrawals after the first day.

### ⊕ Cancellations and Changes

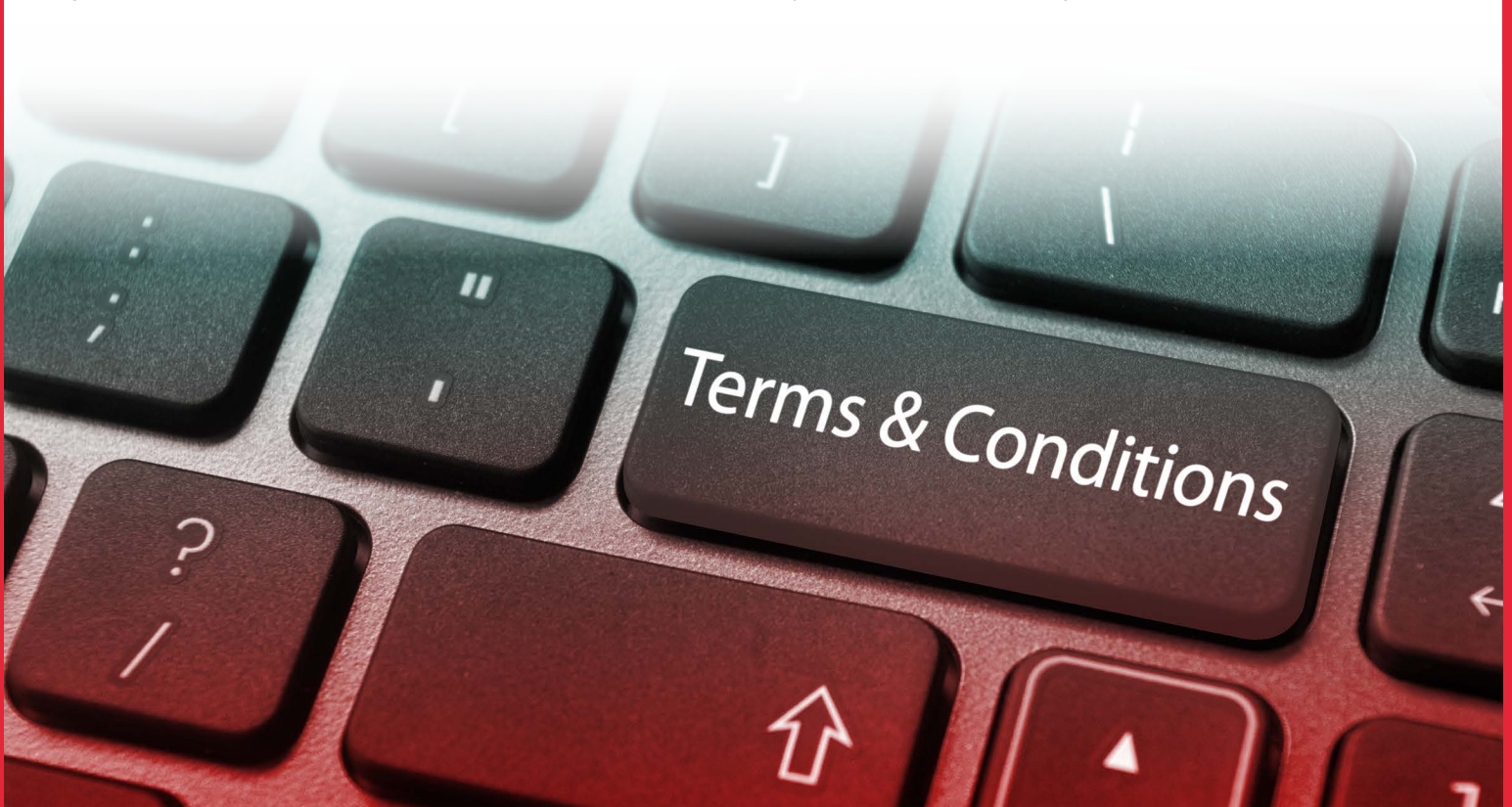
There are no cancellation fees.

### ⊕ Attendance Requirements

Students must attend each day of a course and successfully complete hands on exercises in order to receive a certificate of completion. If a student wishes to retake any portion of a class that he or she completes, the student may do so within 12 months at no extra cost.

### ⊕ Intended Audience

Software Skills Training provides IT training designed for technology professionals who wish to quickly upgrade their computer skills. In most states, the employer bears all training costs.





# Introduction to Programming

C#, Java, Visual Basic.NET

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## Learning to Program with Java™

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**Description:** This hands on Java Programming course provides an introduction to programming using the Java language. Students are introduced to the application development cycle, structure of programs, and specific language syntax. The course introduces important algorithmic constructs, string and character manipulation, dynamic memory allocation, standard I/O, and fundamental object-oriented programming concepts. The course explains the use of inheritance and polymorphism early on so the students can practice extensively in the hands on labs. Structured programming techniques and error handling are emphasized. The course includes the processing of command line arguments and environment variables so students will be able to write flexible, user-friendly programs. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Familiarity with computers.

**More Info:** [www.it-training-courses.com/courses/learning-java-programming.htm](http://www.it-training-courses.com/courses/learning-java-programming.htm)

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## Learning to Program with C#

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**Description:** This hands on C# programming course provides an introduction to programming using the C# language. Students are introduced to the application development cycle, structure of programs, and specific language syntax. The course also contains "Thinking Like a Programmer" sections that provide students insight on how to develop common algorithms. The course covers console and file I/O, string and character manipulation, managing data using collections and fundamental object-oriented programming concepts. Error handling techniques are also emphasized. The course also introduces how to access databases using ADO.NET and illustrates how to build user interfaces using Windows Forms. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Familiarity with computers.

**More Info:** [www.it-training-courses.com/courses/learning-c-sharp-programming.htm](http://www.it-training-courses.com/courses/learning-c-sharp-programming.htm)

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## Learning to Program with VB.NET

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**Description:** This hands on VB.NET programming course provides an introduction to programming using the VB.NET language. Students are introduced to the application development cycle, structure of programs, and specific language syntax. The course also contains "Thinking Like a Programmer" sections that provide students insight on how to develop common algorithms. The course covers console and file I/O, string and character manipulation, managing data using collections and fundamental object-oriented programming concepts. Error handling techniques are also emphasized. The course also introduces how to access databases using ADO.NET and illustrates how to build user interfaces using Windows Forms. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Familiarity with computers.

**More Info:** [www.it-training-courses.com/courses/learning-vb-net-programming.htm](http://www.it-training-courses.com/courses/learning-vb-net-programming.htm)

*"I want to say that our instructor was outstanding! Probably one of the best instructors I've ever had. He knows the material inside and out and was able to answer any question given to him."  
– R.C., AS&D*

*"The instructor obviously knows the material well and had a great rapport with the students. The labs/exercises covered all the material and really made me think about how to apply what I learned."  
– C.K., Sears*



# **.NET Programming**

C#, VB.NET, ASP.NET Web Forms, MVC,  
Windows Forms, WPF, WCF

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## ASP.NET Web Forms Programming Using C#

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic Web sites with ASP.NET Web Forms and the .NET Framework using C#. The class provides a thorough introduction to the C# programming language. Students will learn use the power of ASP.NET Web server controls combined with HTML5 to design Web pages. They will use ASP.NET Validation controls to provide both client-side and server-side data validation for user input. Students will learn how to use master pages to enforce a consistent look and feel across a set of Web pages, as well as how to use user controls to reuse smaller pieces of HTML across multiple pages. Students explore the complexities of state management in ASP.NET Web Forms and how to use session and view state objects to manage state between HTTP requests. Students spend time exploring how to use ADO.NET to interact with databases by running SQL queries and executing stored procedures. Students will learn how to use some of the server-side features to make asynchronous postbacks from the browser, perform partial page updates using the UpdatePanel, use CSS to dim a page during postback and use the Timer fetch data from the server asynchronously.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/asp-net-web-forms-programming-course.htm](http://www.it-training-courses.com/courses/asp-net-web-forms-programming-course.htm)

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## ASP.NET Web Forms Programming Using VB.NET

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web sites with ASP.NET Web Forms and the .NET Framework using VB.NET. The class provides a thorough introduction to the VB.NET programming language. Students will learn use the power of ASP.NET Web server controls combined with HTML5 to design Web pages. They will use ASP.NET Validation controls to provide both client-side and server-side data validation for user input. Students will learn how to use master pages to enforce a consistent look and feel across a set of Web pages, as well as how to use user controls to reuse smaller pieces of HTML across multiple pages. Students explore the complexities of state management in ASP.NET Web Forms and how to use session and view state objects to manage state between HTTP requests. Students spend time exploring how to use ADO.NET to interact with databases by running SQL queries and executing stored procedures. Students will learn how to use some of the server-side features to make asynchronous postbacks from the browser, perform partial page updates using the UpdatePanel, use CSS to dim a page during postback and use the Timer fetch data from the server asynchronously.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/learn-asp-net-web-forms.htm](http://www.it-training-courses.com/courses/learn-asp-net-web-forms.htm)

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## ASP.NET Web Forms Programming for Experienced C# Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web sites with the ASP.NET Framework using C#. Students will learn use the power of ASP.NET Web server controls combined with HTML5 to design Web pages. They will use ASP.NET Validation controls to provide both client-side and server-side data validation for user input. Students will learn how to use master pages to enforce a consistent look and feel across a set of Web pages, as well as how to use user controls to reuse smaller pieces of HTML across multiple pages. Students explore the complexities of state management in ASP.NET Web Forms and how to use session and view state objects to manage state between HTTP requests. Students spend time exploring how to use ADO.NET to interact with databases by running SQL queries and executing stored procedures. Students will learn how to use some of the server-side features to make asynchronous postbacks from the browser, perform partial page updates using the UpdatePanel, use CSS to dim a page during postback and use the Timer fetch data from the server asynchronously.

**Duration:** 3 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/web-application-programming-course.htm](http://www.it-training-courses.com/courses/web-application-programming-course.htm)

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## ASP.NET Web Forms Programming for Experienced VB.NET Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web sites with the ASP.NET Framework using VB.NET. Students will learn use the power of ASP.NET Web server controls combined with HTML5 to design Web pages. They will use ASP.NET Validation controls to provide both client-side and server-side data validation for user input. Students will learn how to use master pages to enforce a consistent look and feel across a set of Web pages, as well as how to use user controls to reuse smaller pieces of HTML across multiple pages. Students explore the complexities of state management in ASP.NET Web Forms and how to use session and view state objects to manage state between HTTP requests. Students spend time exploring how to use ADO.NET to interact with databases by running SQL queries and executing stored procedures. Students will learn how to use some of the server-side features to make asynchronous postbacks from the browser, perform partial page updates using the UpdatePanel, use CSS to dim a page during postback and use the Timer fetch data from the server asynchronously.

**Duration:** 3 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with VB.NET is required.

**More Info:** [www.it-training-courses.com/courses/asp-net-web-forms-course.htm](http://www.it-training-courses.com/courses/asp-net-web-forms-course.htm)

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## ASP.NET MVC Programming Using C#

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web applications using ASP.NET MVC and C#. The class provides a thorough introduction to the C# programming language, including coverage of the essentials of the C# programming language, built in data types, operators, control structures, classes and methods, collections and exception handling. Students learn how to leverage the power of the Model-View-Controller design pattern with the ASP.NET MVC Framework to separate the layers of a web application. Students will use the ASMX and Razor view engines to design a user interface. Students will learn how to build models to manage an application's data layer using both the Entity Framework and LINQ to SQL. Comprehensive labs provide the students with experience creating, debugging, testing and deploying dynamic ASP.NET MVC applications.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/model-view-controller-classes.htm](http://www.it-training-courses.com/courses/model-view-controller-classes.htm)

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## ASP.NET MVC Programming Using VB.NET

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web applications using ASP.NET MVC and VB.NET. The class provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods, collections and exception handling. Students learn how to leverage the power of the Model-View-Controller design pattern with the ASP.NET MVC Framework to separate the layers of a web application. Students will use the ASMX and Razor view engines to design a user interface. Students will learn how to build models to manage an application's data layer using both the Entity Framework and LINQ to SQL. Comprehensive labs provide the students with experience creating, debugging, testing and deploying dynamic ASP.NET MVC applications.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/learn-mvc-programming.htm](http://www.it-training-courses.com/courses/learn-mvc-programming.htm)

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## ASP.NET MVC Programming for Experienced C# Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web applications using ASP.NET MVC and C#. This course teaches students how to leverage the power of the Model-View-Controller design pattern with the ASP.NET MVC Framework to separate the layers of a web application. Students will use the ASMX and Razor view engines to design a user interface. Students will learn how to build models to manage an application's data layer using both the Entity Framework and LINQ to SQL. Students will also learn how to build controllers containing action methods to manage communication between views and models. Other topics include data scaffolding; URL routing; implementing security; using MVC and Web Forms in the same application, unit testing; and deploying ASP.NET MVC applications. Comprehensive labs provide the students with experience creating, debugging, testing and deploying dynamic ASP.NET MVC applications.

**Duration:** 3 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/mvc-training-course.htm](http://www.it-training-courses.com/courses/mvc-training-course.htm)

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## ASP.NET MVC Programming for Experienced VB.NET Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create dynamic web applications using ASP.NET MVC and VB.NET. This course teaches students how to leverage the power of the Model-View-Controller design pattern with the ASP.NET MVC Framework to separate the layers of a web application. Students will use the ASMX and Razor view engines to design a user interface. Students will learn how to build models to manage an application's data layer using both the Entity Framework and LINQ to SQL. Students will also learn how to build controllers containing action methods to manage communication between views and models. Other topics include data scaffolding; URL routing; implementing security; using MVC and Web Forms in the same application, unit testing; and deploying ASP.NET MVC applications. Comprehensive labs provide the students with experience creating, debugging, testing and deploying dynamic ASP.NET MVC applications.

**Duration:** 3 days

**Prerequisites:** Knowledge of fundamental HTML syntax is helpful, but not required. Prior experience with VB.NET is required.

**More Info:** [www.it-training-courses.com/courses/mvc-framework-training-course.htm](http://www.it-training-courses.com/courses/mvc-framework-training-course.htm)

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## Windows Forms Programming Using C#

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**Description:** This course provides students with hands on experience using Visual Studio to create desktop applications using Windows Forms and the .NET Framework using C#. The course provides a thorough introduction to the C# programming language, including coverage of the essentials of the C# programming language, built in data types, operators, control structures, classes and methods, collections and exception handling. Students then learn how to leverage the power of the .NET Framework to build desktop applications. Students learn how to build Windows Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the BackgroundWorker to perform asynchronous operations. Students also learn how to use ADO.NET to interact with databases and XML files. Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

**Duration:** 5 days

**Prerequisites:** Prior programming experience is required.

**More Info:** [www.it-training-courses.com/courses/windows-forms-training-course.htm](http://www.it-training-courses.com/courses/windows-forms-training-course.htm)

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## Windows Forms Programming Using VB.NET

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**Description:** This course provides students with hands on experience using Visual Studio to create desktop applications using Windows Forms and the .NET Framework using VB.NET. The course provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods, collections and exception handling. Students then learn how to leverage the power of the .NET Framework to build desktop applications. Students learn how to build Windows Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the BackgroundWorker to perform asynchronous operations. Students also learn how to use ADO.NET to interact with databases and XML files. Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

**Duration:** 5 days

**Prerequisites:** Prior programming experience is required.

**More Info:** [www.it-training-courses.com/courses/learn-windows-forms-programming.htm](http://www.it-training-courses.com/courses/learn-windows-forms-programming.htm)

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## Windows Forms Programming for Experienced C# Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create desktop applications using Windows Forms and the .NET Framework using C#. This course teaches students how to leverage the power of the .NET Framework to build desktop applications. Students learn how to build Windows Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the BackgroundWorker to perform asynchronous operations. Students also learn how to use ADO.NET to interact with databases and XML files. Students also learn how to build and interact with simple WCF SOAP Web Services. Other topics include: debugging techniques; using a .config file to control application configuration; building menus, toolbars and status bars; reading and writing files; interacting with the file system; and deploying desktop applications. Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/windows-forms-programming.htm](http://www.it-training-courses.com/courses/windows-forms-programming.htm)

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## Windows Forms Programming for Experienced Visual Basic.NET Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create desktop applications using Windows Forms and the .NET Framework using VB.NET. This course teaches students how to leverage the power of the .NET Framework to build desktop applications. Students learn how to build Windows Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the BackgroundWorker to perform asynchronous operations. Students also learn how to use ADO.NET to interact with databases and XML files. Students also learn how to build and interact with simple WCF SOAP Web Services. Other topics include: debugging techniques; using a .config file to control application configuration; building menus, toolbars and status bars; reading and writing files; interacting with the file system; and deploying desktop applications. Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with VB.NET is required.

**More Info:** [www.it-training-courses.com/courses/windows-forms-applications-training.htm](http://www.it-training-courses.com/courses/windows-forms-applications-training.htm)



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## Windows Presentation Foundation Programming Using C#

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**Description:** This training course provides students with hands on experience using Visual Studio to create dynamic Windows Presentation Foundation (WPF) applications using C#. This class provides a thorough introduction to the C# programming language, including coverage of the essentials of the C# programming language, built in data types, operators, control structures, classes and methods. Students will learn the basics of XAML and how it, combined with C#, is used to describe the appearance and behavior of WPF applications. Students also learn how to use ADO.NET to interact with data sources and display data. Other topics include examining WPF controls, working with images and multimedia content, scaling, rotating and skewing UI elements, and using WPF's powerful data binding features. Comprehensive labs and exercises provide the students with experience creating and deploying WPF applications.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental XML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/wpf-training.htm](http://www.it-training-courses.com/courses/wpf-training.htm)

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## Windows Presentation Foundation Programming Using Visual Basic.NET

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**Description:** This training course provides students with hands on experience using Visual Studio to create dynamic Windows Presentation Foundation (WPF) applications using VB.NET. This class provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods. Students will learn the basics of XAML and how it, combined with C#, is used to describe the appearance and behavior of WPF applications. Students also learn how to use ADO.NET to interact with data sources and display data. Other topics include examining WPF controls, working with images and multimedia content, scaling, rotating and skewing UI elements, and using WPF's powerful data binding features. Comprehensive labs and exercises provide the students with experience creating and deploying WPF applications.

**Duration:** 5 days

**Prerequisites:** Knowledge of fundamental XML syntax is helpful, but not required. Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/wpf-programming.htm](http://www.it-training-courses.com/courses/wpf-programming.htm)

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## Windows Presentation Foundation Programming for Experienced C# Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create Windows Presentation Foundation (WPF) applications using C#. This course teaches students how to leverage the power of the .NET Framework to build WPF applications. Students learn the basics of XAML and how to use it to describe the appearance and behavior of WPF user interfaces. Students also learn how to use XAML resources to manage styles, triggers and control templates. Students learn how use with a variety of WPF controls to interact with users and manage data in multi-form applications. Students explore how to leverage the power of XAML data binding to build Students also learn the basics of working with audio and images, as well as performing simple animations. Other topics include: building menus, toolbars and status bars; using the ribbon control; reading and writing files; and deploying WPF applications. Comprehensive labs and exercises provide the students with extensive experience creating and debugging WPF applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/wpf-application-training-course.htm](http://www.it-training-courses.com/courses/wpf-application-training-course.htm)

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## Windows Presentation Foundation Programming for Experienced VB.NET Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create Windows Presentation Foundation (WPF) applications using VB.NET. This course teaches students how to leverage the power of the .NET Framework to build WPF applications. Students learn the basics of XAML and how to use it to describe the appearance and behavior of WPF user interfaces. Students also learn how to use XAML resources to manage styles, triggers and control templates. Students learn how use with a variety of WPF controls to interact with users and manage data in multi-form applications. Students explore how to leverage the power of XAML data binding to build Students also learn the basics of working with audio and images, as well as performing simple animations. Other topics include: building menus, toolbars and status bars; using the ribbon control; reading and writing files; and deploying WPF applications. Comprehensive labs and exercises provide the students with extensive experience creating and debugging WPF applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with VB.NET is required.

**More Info:** [www.it-training-courses.com/courses/windows-presentation-foundation-training-course.htm](http://www.it-training-courses.com/courses/windows-presentation-foundation-training-course.htm)

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## WCF Programming Using C#

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**Description:** This course provides students with hands on experience using Visual Studio to create service-oriented applications using Windows Communication Foundation (WCF) and C#. This class provides a thorough introduction to the C# programming language, including coverage of the essentials of the C# programming language, built in data types, operators, control structures, classes and methods. Students then learn how to leverage the power of the .NET Framework to build Web Service applications that interoperate with consumer applications including other platforms and technologies. Students will learn how to configure addresses, bindings, and service and data contracts as well as how to use various techniques for developing endpoints to allow communication between consumer applications and the web services provider. Comprehensive labs and exercises provide the students with experience creating both content server and consumer applications.

**Duration:** 5 days

**Prerequisites:** Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/learn-wcf-programming.htm](http://www.it-training-courses.com/courses/learn-wcf-programming.htm)

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## WCF Programming Using VB.NET

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**Description:** This course provides students with hands on experience using Visual Studio to create service-oriented applications using Windows Communication Foundation (WCF) and VB.NET. This class provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods. Students then learn how to leverage the power of the .NET Framework to build Web Service applications that interoperate with consumer applications including other platforms and technologies. Students will learn how to configure addresses, bindings, and service and data contracts as well as how to use various techniques for developing endpoints to allow communication between consumer applications and the web services provider. Comprehensive labs and exercises provide the students with experience creating both content server and consumer applications.

**Duration:** 5 days

**Prerequisites:** Prior experience with a scripting or programming language is required.

**More Info:** [www.it-training-courses.com/courses/learn-windows-communication-foundation.htm](http://www.it-training-courses.com/courses/learn-windows-communication-foundation.htm)

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## WCF Programming for Experienced C# Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create service-oriented applications using Windows Communication Foundation (WCF) and C#. Students learn how to leverage the power of the .NET Framework to build Web Service applications that interoperate with consumer applications including other platforms and technologies. Students will learn how to configure addresses, bindings, and service and data contracts as well as how to use various techniques for developing endpoints to allow communication between consumer applications and the web services provider. The course includes coverage of instance management, fault handling, and security. Students will learn how to use the WCF Routing Service for load balancing, content-based routing, and protocol bridging. Comprehensive labs and exercises provide the students with experience creating both content server and consumer applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with C# is required.

**More Info:** [www.it-training-courses.com/courses/wcf-training-course.htm](http://www.it-training-courses.com/courses/wcf-training-course.htm)

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## WCF Programming for Experienced VB.NET Programmers

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**Description:** This course provides students with hands on experience using Visual Studio to create service-oriented applications using Windows Communication Foundation (WCF) and VB.NET. Students learn how to leverage the power of the .NET Framework to build Web Service applications that interoperate with consumer applications including other platforms and technologies. Students will learn how to configure addresses, bindings, and service and data contracts as well as how to use various techniques for developing endpoints to allow communication between consumer applications and the web services provider. The course includes coverage of instance management, fault handling, and security. Students will learn how to use the WCF Routing Service for load balancing, content-based routing, and protocol bridging. Comprehensive labs and exercises provide the students with experience creating both content server and consumer applications.

**Duration:** 3 days

**Prerequisites:** Prior experience with VB.NET is required.

**More Info:** [www.it-training-courses.com/courses/web-service-application-training.htm](http://www.it-training-courses.com/courses/web-service-application-training.htm)

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## Advanced .NET Framework Programming Using C#

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**Description:** This hands-on course examines how to utilize advanced features of C# and the .NET Framework in order to build sophisticated, scalable, high-performing applications. The course includes coverage of features available in .NET 2.0 through .NET 4.5. Advanced object-oriented programming topics include auto-implemented properties, inheritance, abstract classes, sealed classes, and generics. Students learn how to use synchronous and asynchronous delegates to call methods using late binding, as well as how to use delegates to define and fire custom events and manage callbacks. Database topics include how to use ADO.NET to manipulate data in databases and how advanced ADO.NET features provide support for transaction management, connection pooling, and the management of disconnected DataSets. Coverage includes using LINQ to Objects, LINQ to SQL, LINQ to DataSets and LINQ to XML, as well as how PLINQ can be used to make efficient queries on large sets of data located in memory. Comprehensive labs provide students with extensive experience coding with Visual Studio to practice with the topics presented throughout the course.

**Duration:** 5 days

**Prerequisites:** C# programming experience.

**More Info:** [www.it-training-courses.com/courses/c-sharp-programming.htm](http://www.it-training-courses.com/courses/c-sharp-programming.htm)

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## Advanced .NET Framework Programming Using VB.NET

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**Description:** This hands-on course examines how to utilize advanced features of VB.NET and the .NET Framework in order to build sophisticated, scalable, high-performing applications. The course includes coverage of features available in .NET 2.0 through .NET 4.5. Advanced object-oriented programming topics include auto-implemented properties, inheritance, abstract classes, sealed classes, and generics. Students learn how to use synchronous and asynchronous delegates to call methods using late binding, as well as how to use delegates to define and fire custom events and manage callbacks. Database topics include how to use ADO.NET to manipulate data in databases and how advanced ADO.NET features provide support for transaction management, connection pooling, and the management of disconnected DataSets. Coverage includes using LINQ to Objects, LINQ to SQL, LINQ to DataSets and LINQ to XML, as well as how PLINQ can be used to make efficient queries on large sets of data located in memory. Comprehensive labs provide students with extensive experience coding with Visual Studio to practice with the topics presented throughout the course.

**Duration:** 5 days

**Prerequisites:** VB.NET programming experience.

**More Info:** [www.it-training-courses.com/courses/vb-net-programming.htm](http://www.it-training-courses.com/courses/vb-net-programming.htm)

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## Advanced MVC: Building Web Applications Using the ASP.NET Web API with C#

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**Description:** This course provides students with the skills needed to create sophisticated web applications using advanced features of ASP.NET MVC, the Entity Framework, Web API, and the popular JavaScript libraries jQuery, jQuery UI, Bootstrap and AngularJS. Students will build several ASP.NET MVC web applications using Visual Studio. Students learn how to use Bootstrap with MVC to make a web site responsive on devices from large desktop displays to small mobile devices. Students will then learn how to use jQuery's Ajax features to build more interactive MVC applications. The course covers use of the Entity Framework to provide a data access layer for an MVC application. Students will also learn how to use the Web API to build APIs that expose services and data via HTTP. In these types of applications, the entire page is loaded in the browser after the initial request. All other interactions with the server utilize Ajax requests to update the page. The service layer is implemented with the Web API.

**Duration:** 5 days

**Prerequisites:** Prior experience building ASP.NET MVC web sites. Students who are not familiar with ASP.NET MVC or C# should take the **ASP.NET MVC Programming Using C#** course instead.

**More Info:** [www.it-training-courses.com/courses/web-api-training-course.htm](http://www.it-training-courses.com/courses/web-api-training-course.htm)

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## Advanced MVC: Building Web Applications Using the ASP.NET Web API with VB.NET

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**Description:** This course provides students with the skills needed to create sophisticated web applications using advanced features of ASP.NET MVC, the Entity Framework, Web API, and the popular JavaScript libraries jQuery, jQuery UI, Bootstrap and AngularJS. Students will build several ASP.NET MVC web applications using Visual Studio. Students learn how to use Bootstrap with MVC to make a web site responsive on devices from large desktop displays to small mobile devices. Students will then learn how to use jQuery's Ajax features to build more interactive MVC applications. The course covers use of the Entity Framework to provide a data access layer for an MVC application. Students will also learn how to use the Web API to build APIs that expose services and data via HTTP. In these types of applications, the entire page is loaded in the browser after the initial request. All other interactions with the server utilize Ajax requests to update the page. The service layer is implemented with the Web API.

**Duration:** 5 days

**Prerequisites:** Prior experience building ASP.NET MVC web sites. Students who are not familiar with ASP.NET MVC or VB.NET should take the **ASP.NET MVC Programming Using VB.NET** course instead.

**More Info:** [www.it-training-courses.com/courses/advanced-mvc-training-course.htm](http://www.it-training-courses.com/courses/advanced-mvc-training-course.htm)



# Python Programming

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## Python Programming

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**Description:** This hands on Python programming course shows how to rapidly develop and maintain effective Python programs. The course includes thorough coverage of Python syntax, built in data types and control constructs. The course takes a practical approach to creating and organizing Python programs using functions, packages, modules and classes as part of Python's object-oriented paradigm. Attendees will use regular expressions to rapidly process data captured from users and from the file system. Attendees will learn how to use Python to create scripts that manipulate data, automate tasks, perform error handling and store and retrieve data by using relational databases. Students will be able to create Python scripts that assist with system administration. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 4 days

**Prerequisites:** Prior scripting experience or knowledge of fundamental programming concepts.

**More Info:** [www.it-training-courses.com/courses/python-programming-training-course.htm](http://www.it-training-courses.com/courses/python-programming-training-course.htm)

*"I was impressed by the extent of the detail covered in the training exercises. The infrastructure was awesome as well, specially for the remote access."*

*– S.P., UCLA Health*

*"Excellent instructor. The remote attendance software worked wonderfully. I would not hesitate to take another course with you."*

*– K.M., Coverys*





# Mobile Application Programming

Android, iOS, Swift, Objective-C, Xamarin

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## Android™ Application Development

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**Description:** This hands-on course conveys the fundamental skills necessary to deploy Android Apps on mobile devices such as phones and tablets. The course emphasizes proper layout of the user interface (UI), including how to add buttons, labels, textboxes, checkboxes, images and other widgets to the UI. Students will learn how to utilize Android's XML-based layout system, which builds the UI with containers and widgets, as well as how to set wallpapers and add menus to the UI. Students also learn how to handle screen rotation, and how to define UIs so they can adjust for different screen sizes. Coverage of data storage includes best practices for storing images and files. Student will also learn how to embed SQLite databases in Apps, and then use these databases to store and retrieve any kind of data. The course emphasizes Service Oriented Architecture (SOA). Students employ the Eclipse editor and the Android Developer Tools plugin to perform comprehensive hands on exercises to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Prior experience with a scripting or programming language is required. Java skills are helpful but not required.

**More Info:** [www.it-training-courses.com/courses/android-programming-course.htm](http://www.it-training-courses.com/courses/android-programming-course.htm)

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## iOS Programming for iPhone® and iPad® Applications Using Objective-C

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**Description:** Participants in this hands-on course will learn about and gain practice developing iOS applications for iPhone and iPad devices. Attendees will learn all the basics needed for iOS development, from installation of the Xcode editor to the Apple approval process. The Objective-C language is presented and used in hands on exercises to learn how it interacts with the hardware systems. In hands on exercises, students will use built-in data views as well as create custom screens for data entry and presentation. Students will learn to follow Apple's design recommendations to provide clean interfaces that appropriately size to various devices and screens. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency. Students will create apps from the ground up, demonstrating the features of Objective-C and serving as an introduction to developing apps for release to the App Store.

**Duration:** 5 days

**Prerequisites:** Prior programming experience in an object-oriented language such as Java, C# or C++.

**More Info:** [www.it-training-courses.com/courses/mobile-programming-course.htm](http://www.it-training-courses.com/courses/mobile-programming-course.htm)

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## Advanced iOS Programming for iPhone® and iPad® Applications Using Objective-C

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**Description:** Students will develop apps to interact with many of the hardware systems available on iPhone, iPad and iPod Touch hardware devices. Students will learn how to use the camera and microphone for still images, videos and audio. The course includes coverage of the Core Location and Map Kit for GPS systems and the motion systems for the internal gyroscope system. Students will learn how to save and read files for local systems and how to use the Core Data system to create local SQLite databases. Students learn how iOS apps interact with Web services through request/response systems. Attendees also learn how to develop apps incorporating iCloud support, and the requirements for sharing documents. Comprehensive hands on exercises are integrated throughout to familiarize students with many of the hardware systems and concepts needed for iOS apps, as well as security concerns to address prior to launching iOS apps.

**Duration:** 5 days

**Prerequisites:** Strong experience with Objective-C programming language and basic iOS application development. The **iOS Programming for iPhone and iPad Applications Using Objective-C** course is strongly recommended.

**More Info:** [www.it-training-courses.com/courses/ios-programming-objective-c.htm](http://www.it-training-courses.com/courses/ios-programming-objective-c.htm)

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## Swift Programming for iPhone® and iPad® Applications

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**Description:** In this hands on Swift 4 programming course, attendees will learn how to develop iPhone and iPad apps using Swift and Xcode. Students begin by learning the fundamentals of the Swift language. They will see how to effectively use advanced Swift features like generics, closures, and error handling. Students will use Storyboards to design user interfaces for iOS apps. They learn how to use segues to manage transitions between views. Students will become proficient in implementing master/detail apps. Students learn how to persist data using three different techniques: read and write local files on the device, make asynchronous calls to Web services and parse XML data from the HTTP response, and use Core Data to interact with local SQLite databases. They learn about the life cycle of an iOS app and how to write code to respond to state transitions, including scheduling code to run in background when the app isn't active. Throughout the course, students work with the Apple's Cocoa Touch UI Framework. The course emphasizes best programming practices. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency. Students will create iOS apps using Swift from the ground up, demonstrating the features of Swift, iOS, and its supporting code libraries.

**Duration:** 5 days

**Prerequisites:** Prior programming experience in an object-oriented language.

**More Info:** [www.it-training-courses.com/courses/swift-programming-training-course.htm](http://www.it-training-courses.com/courses/swift-programming-training-course.htm)

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## Xamarin Cross-Platform Mobile Application Development

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**Description:** Students will learn how to use Xamarin as a cross-platform mobile development tool to build native Android and iOS apps using C# and a .NET code base. Students will begin by learning how to use Xamarin.Forms to build Android and iOS apps using a single code base. Students will learn how to use XAML to define the UI layer for all platforms. Coverage of XAML includes how to use XAML controls to interact with the use, how to use XAML to manage the UI layout, and how to connect UI events to C# event handlers. Students will learn how to interact with both local data stored on the device and how to communicate with, and process data from, RESTful services using Xamarin.Forms. In this course, students will learn how to install and configure Xamarin.Android, and then examine Android application architectures. Students will also learn how to install and configure Xamarin.iOS, and then examine native iOS application architectures. This course will also examine how to work with touch and location services for both Android and iOS devices.

**Duration:** 5 days

**Prerequisites:** C# programming experience.

**More Info:** [www.it-training-courses.com/courses/xamarin-mobile-app-training-course.htm](http://www.it-training-courses.com/courses/xamarin-mobile-app-training-course.htm)



# Web Development

HTML5, JavaScript, jQuery, Angular,  
Node.js, PHP, Perl

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## Website Development with HTML5, CSS and Bootstrap

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**Description:** This hands on course provides a thorough introduction into the creation of a Website using HTML, CSS and Bootstrap. The course starts with thorough coverage of HTML and Cascading Style Sheets (CSS) and progresses to using the Bootstrap framework to create mobile-friendly websites. Topics include use of HTML5 semantic tags, block-level and inline elements, creating links, ordered and unordered lists, creation of tables and forms. Students will learn to attach CSS to a page using several different techniques, CSS selectors and pseudo-classes, CSS box model, and a variety of CSS properties. Students will learn how to create a Bootstrap page utilizing the grid system, implement commonly used components (such as dropdowns and navigation bars), use Bootstraps CSS classes to format page elements and use Bootstrap's plugins to add tabs, modals and accordions to a page. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 4 days

**Prerequisites:** Basic personal computer skills and basic Internet knowledge.

**More Info:** [www.it-training-courses.com/courses/html5-bootstrap-programming-course.htm](http://www.it-training-courses.com/courses/html5-bootstrap-programming-course.htm)

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## JavaScript Programming

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**Description:** This hands on JavaScript training course provides the fundamental knowledge necessary to design and develop dynamic Web pages using JavaScript. It introduces students to client-side JavaScript and how the language can be used to turn static HTML pages into dynamic, interactive Web pages. Students will learn the syntax of the JavaScript language and how client-side scripts interact with server-side programs. JavaScript topics include adding JavaScript to a Webpage, use of dialogs to interact with the user and JavaScript intrinsic objects such as Date, Array and Math. Students will also be introduced to the Document Object Model (DOM), creation of functions, event handling, form validation, JSON and Ajax. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 4 days

**Prerequisites:** Basic computer skills and knowledge of HTML fundamentals including use of Cascading Style Sheets. Students who are not familiar with HTML should register for the course **Website Development with HTML5, CSS and Bootstrap**.

**More Info:** [www.it-training-courses.com/courses/javascript-course.htm](http://www.it-training-courses.com/courses/javascript-course.htm)

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## jQuery Programming

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**Description:** This hands-on course covers the jQuery library, DOM manipulation, performing Ajax requests, and an overview of the UI library. Students will also learn how to use the jQuery function to return a wrapped set of elements, use utility functions to work with arrays and strings, modify the appearance of elements using a number of predefined effects as well as how to implement existing plugins. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 3 days

**Prerequisites:** Knowledge of HTML5, CSS3 and JavaScript. Attendees with little experience in HTML5/CSS3 should take the 5-day **Developing Rich Internet Applications Using HTML5, CSS3 and jQuery** course instead.

**More Info:** [www.it-training-courses.com/courses/jquery-training-course.htm](http://www.it-training-courses.com/courses/jquery-training-course.htm)

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## Developing Mobile Websites with Responsive Web Design and jQuery Mobile

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**Description:** This hands-on course conveys the fundamental skills necessary to design and build responsive web sites for mobile devices such as phones and tablets. Attendees will use responsive web design (RWD) techniques such as CSS3 media queries and flexible layouts to build mobile-compatible web sites. Students will learn how to test mobile websites using emulators and simulators. The course also provides an extensive introduction into using the jQuery Mobile Framework for building mobile-specific web sites. Students will learn how to use jQuery Mobile widgets to create forms, lists, toolbars and collapsible blocks. Attendees will use ThemeRoller for jQuery Mobile to download existing or custom theme swatches to format the appearance of a web site. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Prior knowledge of HTML, CSS, JavaScript and jQuery equivalent to attending the **Website Development with HTML5, CSS and Bootstrap**, **JavaScript Programming** and **Developing Rich Internet Applications Using HTML5, CSS3 and jQuery** courses.

**More Info:** [www.it-training-courses.com/courses/jquery-mobile-training-course.htm](http://www.it-training-courses.com/courses/jquery-mobile-training-course.htm)

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## Developing Web Applications Using AngularJS

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**Description:** Attendees will learn the fundamental skills necessary to build Web Applications using AngularJS and the MV\* (Model View Whatever) design pattern. Topics include creating controllers, using scope to manage data, designing views/templates, routing, data binding and filters, applying directives, as well as form integration and validation. Students will also use AngularJS' built-in services to communicate with RESTful web services and provide CRUD database operations. Students will learn how to use CSS animations and Bootstrap to enhance the UI as well as learn to employ third-party components such as modal dialogs ("modals"), progress bars and navbars. In addition, students will learn to extend AngularJS with custom directives, services and filters. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency. This course introduces AngularJS 1.x. Students interested in Angular versions 2 through 4 should take the **Developing Web Applications Using Angular** course instead.

**Duration:** 4 days

**Prerequisites:** Knowledge of HTML, CSS and JavaScript equivalent to attending the **Website Development with HTML5, CSS and Bootstrap** and **JavaScript Programming** courses. Knowledge of jQuery is helpful, but not required.

**More Info:** [www.it-training-courses.com/courses/angularjs-programming-course.htm](http://www.it-training-courses.com/courses/angularjs-programming-course.htm)



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## Developing Web Applications Using Angular

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**Description:** This hands on programming course provides a thorough introduction to the Angular JavaScript Framework including coverage of versions 2 through 4. Attendees will learn the fundamental skills necessary to build Web Applications using Angular and the MVVM (Model-View-ViewModel) design pattern. Topics include using TypeScript and ECMAScript 6 to create components, using directives and components to define UI elements, routes and screens, applying dependency injection, designing views/templates, routing, data binding and pipes, applying directives, as well as form integration and validation. Students will also use the Angular services to communicate with RESTful web services and provide CRUD database operations. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

This course introduces Angular versions 2 through 4. Students interested in Angular 1.x should take the **Developing Web Applications Using AngularJS** course instead.

**Duration:** 5 days

**Prerequisites:** Knowledge of HTML, CSS and JavaScript equivalent to attending the **Website Development with HTML5, CSS and Bootstrap** and **JavaScript Programming** courses.

**More Info:** [www.it-training-courses.com/courses/angular-training-course.htm](http://www.it-training-courses.com/courses/angular-training-course.htm)

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## Node.js Application Development

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**Description:** This course includes thorough coverage of the Node.js architecture, the V8 engine and the Node Ecosystem. This course will provide attendees with a comprehensive understanding of Node.js core modules and how to procure and install packages using npm. Attendees will learn how to use Node.js to create Command Line Interface applications for system administration and process management, use Node.js networking modules to communicate with TCP/IP clients and servers such as HTTP servers, and create / consume REST (Representational State Transfer) data services. Attendees will learn how to leverage frameworks such as Express to rapidly build Web Applications. Attendees will learn how to use Node.js to connect to NoSQL databases such as MongoDB to store, retrieve, and manipulate data (i.e., achieve data persistence). Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 4 days

**Prerequisites:** Knowledge of JavaScript equivalent to attending the **JavaScript Programming** course. Attendees should also have familiarity with a Windows, Linux, or OS X command line interface as well as a basic understanding of network protocols such as HTTP.

**More Info:** [www.it-training-courses.com/courses/node-js-web-application-training-course.htm](http://www.it-training-courses.com/courses/node-js-web-application-training-course.htm)

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## PHP Programming

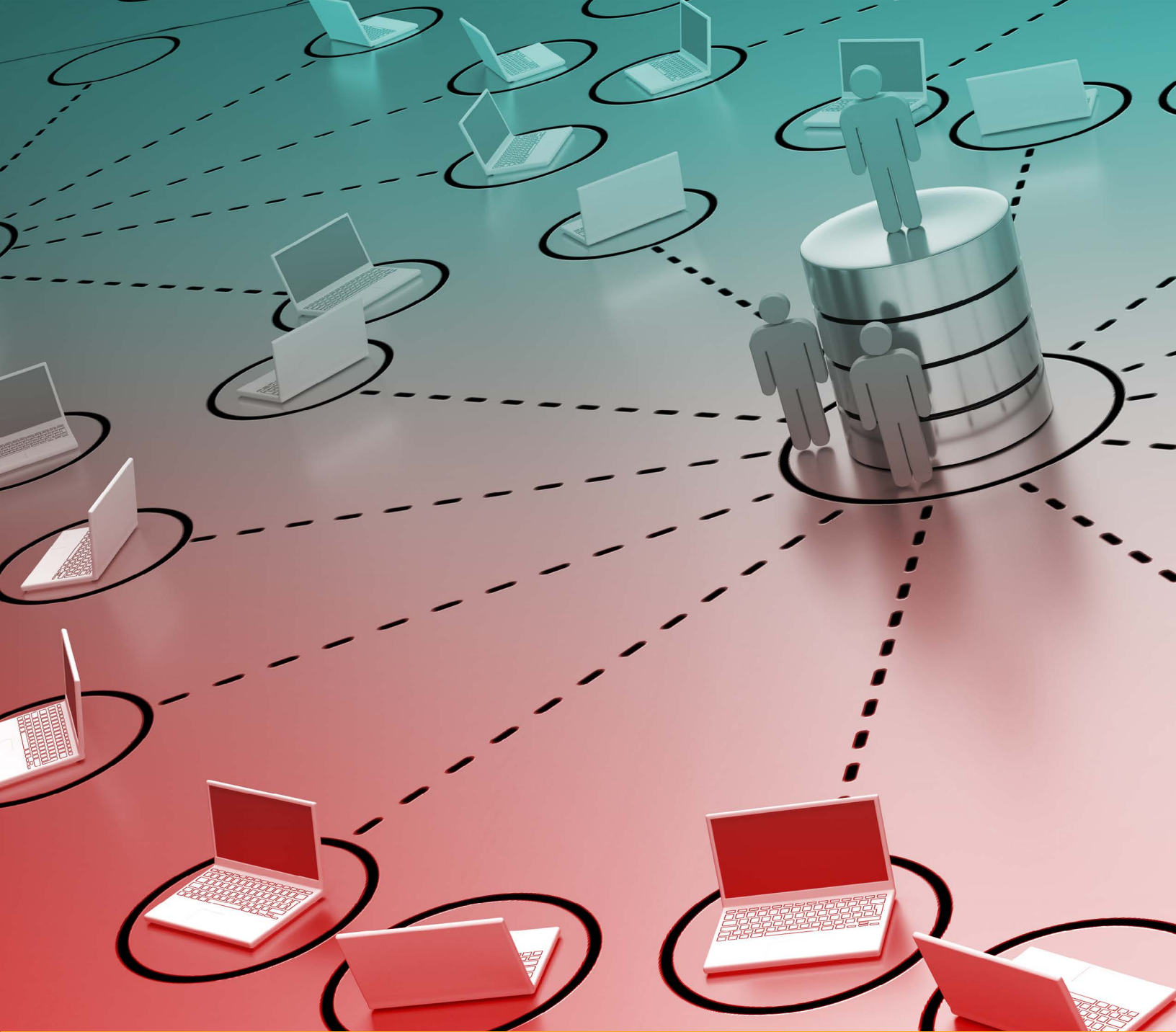
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**Description:** This PHP training course provides the knowledge necessary to design and develop dynamic, database-driven web pages using PHP 7. PHP is a language written for the web, quick to learn, easy to deploy and provides substantial functionality required for e-commerce. This course introduces the PHP framework and syntax, and covers in depth the most important techniques used to build dynamic web sites. Students learn how to connect to any ODBC-compliant database, and perform hands on practice with a MySQL database to create database-driven HTML forms and reports. E-commerce skills including user authentication, data validation, dynamic data updates, and shopping cart implementation are covered in detail. Students also learn how to configure PHP and the Apache Web Server. Comprehensive lab exercises provide facilitated hands on practice crucial to developing competence and confidence with the new skills being learned.

**Duration:** 4 days

**Prerequisites:** Basic computer skills and knowledge of HTML fundamentals. Prior programming experience is helpful but not required.

**More Info:** [www.it-training-courses.com/courses/php-training.htm](http://www.it-training-courses.com/courses/php-training.htm)



# SQL Server

Programming, Administration, SSIS, SSAS,  
SSRS

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## SQL Programming

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**Description:** This SQL programming course teaches students relational database fundamentals and SQL programming skills. Topics covered include relational database architecture, database design techniques, and simple and complex query skills. This class is intended for analysts, developers, designers, administrators, and managers new to the SQL programming language. Upon completion, participants will understand SQL functions, join techniques, database objects and constraints, and will be able to write useful SELECT, INSERT, UPDATE and DELETE statements. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 3 days

**Prerequisites:** General computer knowledge. Familiarity with relational database concepts is helpful but not required.

**More Info:** [www.it-training-courses.com/courses/sql-programming.htm](http://www.it-training-courses.com/courses/sql-programming.htm)

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## Microsoft Transact-SQL Programming

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**Description:** This Transact-SQL programming course teaches students relational database fundamentals and SQL programming skills in the Microsoft SQL Server environment. Topics covered include relational database architecture, database design techniques, and simple and complex query skills. The course also covers Microsoft-specific T-SQL programming constructs, creation and use of stored procedures and user-defined functions, use of cursors and updateable views. This class is intended for analysts, developers, designers, administrators, and managers new to the SQL programming language. Upon completion, participants will understand SQL functions, join techniques, database objects and constraints, and will be able to write useful stored procedures and views as well as complex queries and updates. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** General computer knowledge. Familiarity with relational database concepts is helpful but not required.

**More Info:** [www.it-training-courses.com/courses/transact-sql-programming.htm](http://www.it-training-courses.com/courses/transact-sql-programming.htm)

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## Microsoft SQL Server 2016 Administration

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**Description:** This five-day instructor-led course provides students who administer and maintain SQL Server 2016 databases with the knowledge and skills to administer a SQL Server database infrastructure. The primary audience for this course is individuals who administer and maintain SQL Server databases. These individuals perform database administration and maintenance as their primary area of responsibility, or work in environments where databases play a key role in their primary job.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and Transact-SQL. Attendance at our **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-server-2016-administration-training-course.htm](http://www.it-training-courses.com/courses/sql-server-2016-administration-training-course.htm)

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## SQL Server 2016 Reporting Services

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**Description:** The course includes an overview of the SQL Server business intelligence architecture focusing the role of Reporting services. All reports are developed utilizing SQL Server Data Tools (SSDT), however the new 2016 Report Designer is also introduced. Students will complete hands-on exercises creating a number of reports including table-based, cross tabular and forms based designs. Reports utilizing the newly designed charts, gauges, KPIs, spark lines, data bars and tree maps will be built. Exercises will incorporate the use of report parameters and features such as drill down, interactive sorting, hyperlinks, book marks and report maps. Students will become familiar with report deployment to the new Reporting Service Web Portal and learn how to use portal the management tools to configure report caches, snapshots and subscriptions. The student will also gain experience with the new Report Services Web portal.

**Duration:** 3 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-2016-reporting-services-course.htm](http://www.it-training-courses.com/courses/sql-2016-reporting-services-course.htm)

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## SQL Server 2016 Business Intelligence Application Development (SSRS, SSIS, SSAS)

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**Description:** Three of the five days are reserved for SSRS, with the remaining two days providing an introduction to SSIS and SSAS services. All reports are developed utilizing SQL Server Data Tools (SSDT), however the new 2016 Report Designer is also introduced. Students will complete hands-on exercises creating a number of reports including table-based, cross tabular and forms based designs. Reports utilizing the newly designed charts, gauges, KPIs, spark lines, data bars and tree maps will be built. Students will learn the basics of creating SSIS packages using SQL Server Data Tools to create Extract Transform and Load solutions used to populate data warehouses and marts. In the final day, based on a populated data warehouse they have created, students will then learn how to develop an SSAS multidimensional (cube) model using MDX syntax. Cubes will be customized to include KPIs, Calculated Members, Named Sets, Navigational Hierarchies, and Perspectives.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-2016-business-intelligence.htm](http://www.it-training-courses.com/courses/sql-2016-business-intelligence.htm)

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## SQL Server 2016 Business Intelligence: Integration Services and Analysis Services

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**Description:** The focus of this course is to familiarize developers with the use of SQL Server Engine, SQL Server Integration Services (SSIS) and SQL Server Analysis Services (SSAS) to create and populate data warehouses through ETL processing and build Multidimensional and Tabular models to use and reporting data sources. Students will learn how to design and build data warehouses and marts using SQL Server Management Studio. Also demonstrated are other control flow tasks that can interact with an NTFS file system, FTP server, execute Win32 processes, send emails, and run .NET scripts. Based on the populated data warehouse they have created, students will then learn how to develop both Multidimensional and Tabular SSAS models using the languages MDX and DAX. Cubes will be customized to include KPIs, Calculated Members, Named Sets, Navigational Hierarchies, and Perspectives.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/ssis-ssas-2016-training-course.htm](http://www.it-training-courses.com/courses/ssis-ssas-2016-training-course.htm)

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## Microsoft SQL Server 2014 Administration

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**Description:** Participants in this course will come away with the knowledge and experience required to administer SQL Server 2014. The course focuses on performing common administrative tasks, understanding how SQL Server works under the covers, and optimizing SQL Server performance as well as assuring high data availability. You will learn how to install, configure, manage, secure, automate, monitor, and optimize SQL Server 2014. You will also learn how to create, manage, back up, and restore individual databases, transfer and replicate data, configure for high availability, and plan disaster recovery. Emphasis is placed on how SQL Server 2014 is architected, so that you will be able to make the proper decisions in configuring and managing your SQL Server instances. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-server-administration-course.htm](http://www.it-training-courses.com/courses/sql-server-administration-course.htm)

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## SQL Server 2014 Reporting Services

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**Description:** This course begins with a discussion of the Reporting Services architecture and how to set up Reporting Services servers. Students will install and configure Reporting Services, and perform hands-on exercises where they create various types of reports, including basic table-based reports, parameterized reports, drilldown reports, linked reports, sub-reports, matrix reports (pivot tables), free-form reports and reports with charts and gauges. Students learn how to group data and add subtotals and totals to reports, as well as how to add custom calculations using the built-in functions or using custom functions written in .NET. The course ends with a complete overview of Report Server administration, including how to deploy and secure reports, how to schedule automatic report generation and delivery, how to backup reports, how to store previous copies of reports in history folders, and how to maintain and troubleshoot Report Servers.

**Duration:** 3 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/ssrs-training-course.htm](http://www.it-training-courses.com/courses/ssrs-training-course.htm)

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## SQL Server 2014 Business Intelligence Application Development (SSRS, SSIS, SSAS)

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**Description:** Students start by installing and configuring SQL Server 2014 servers that support SSRS, SSIS and SSAS. Hands-on exercises will be performed where they create various types of reports, including basic table-based reports, parameterized reports, drilldown reports, linked reports, sub-reports, matrix reports (pivot tables), free-form reports and reports with charts and gauges. Students also spend a full day completing hand-on exercises demonstrating SSIS features, including understanding the architecture of Integration Services projects and packages, as well as how to design and implement data integration routines using SSIS. The final day covers how to create data cubes using SSAS, which includes an overview of data warehouse design concepts and why data cubes typically pull their data from data warehouses. Hand-on exercises are performed that create, deploy, process and connect to data cubes.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-server-2014-ssrs-ssis-ssas-training.htm](http://www.it-training-courses.com/courses/sql-server-2014-ssrs-ssis-ssas-training.htm)

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## SQL Server 2014 Business Intelligence: Integration Services and Analysis Services

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**Description:** Students will install and configure SQL Server 2014 servers that are enabled for SSIS and SSAS, which are then used for comprehensive hands on exercises demonstrating key features of SSIS/SSAS. Students work with complex SSIS data migration projects that import/export data between multiple formats. The course provides thorough coverage of how to deploy, automate, secure and troubleshoot SSIS routines. Students will learn how to use SSAS to design, build and populate data warehouses to stage data for use by data cubes, and will perform hands-on exercises to design and build a data warehouse. The course also includes an overview of data mining and the tools available to do this in SSAS, supported by a hands-on exercise that walks through the process of defining a data mining structure to predict future sales.

**Duration:** 5 days

**Prerequisites:** Familiarity with database concepts, Windows desktop navigation and software installation techniques. Attendance at our **SQL Programming** course or **Microsoft Transact-SQL Programming** course is highly recommended although not required.

**More Info:** [www.it-training-courses.com/courses/sql-server-2014-ssis-ssas-training.htm](http://www.it-training-courses.com/courses/sql-server-2014-ssis-ssas-training.htm)





# Java Programming

Java, Java EE, EJB, Spring, Hibernate, JPA

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## Java™ Programming

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**Description:** This hands on course introduces experienced programmers to Java technology and Java programming techniques. Included are core language concepts including fundamental data types, flow control, and standard function libraries. The course emphasizes object oriented programming and modular design to support distributed development environments. Included are the design of classes and objects, inheritance and polymorphism, and the details about creating programs for use on a distributed network, with emphasis on JSP, Servlets, and JDBC. The course also includes coverage of the Java Collections API, fundamental I/O, exceptions, and exception handling. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Basic programming skills in a structured language. Knowledge and experience with Object-Oriented Design (OOD) is helpful, but not required.

**More Info:** [www.it-training-courses.com/courses/java-programming.htm](http://www.it-training-courses.com/courses/java-programming.htm)

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## Effectively Using Java™ Packages And Features

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**Description:** This intermediate level course is intended for programmers who already have a fundamental understanding of Java™ programming and some experience writing code. It provides additional insights and details regarding some of the more advanced and useful capabilities contained in the Java Programming Language and it's associated packages. Topics include reflection and JavaBeans, Java type safety enhancements, the Java Collections Framework, Java Database Connectivity (JDBC), multithreading, inner classes, lambda expressions and networking. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Familiarity with and experience using Java. Completion of either the **Learning to Program with Java** or **Java Programming** course, or equivalent Java programming experience.

**More Info:** [www.it-training-courses.com/courses/advanced-java-programming.htm](http://www.it-training-courses.com/courses/advanced-java-programming.htm)

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## Introduction to Web Application Development Using JEE™, Spring/Hibernate, Web Services and AJAX

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**Description:** This course provides students hands on experience with Java Enterprise (Java EE) technologies, creating dynamic web and enterprise applications that utilize several Java frameworks and technologies including JSP's and Servlets, Java Persistence API (JPA), JNDI, JDBC, AJAX, Web Services, Spring and Hibernate. The goal is to enable students to exploit the Java EE platform and accompanying frameworks to facilitate the development of distributed, web-enabled applications. Starting with Java Server Pages and Servlets, the course then introduces some of the most widely used frameworks to provide concrete illustrations of the services available. Students will learn how to utilize ANT, a flexible and powerful XML-based build utility, to compile, deploy and execute stand-alone and enterprise Java applications. They will also use ANT to execute standalone client applications that communicate with Java EE applications. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Java SE 5+ programming experience and an understanding of object-oriented design principles. The course **Java Programming** or equivalent knowledge provides a solid foundation

**More Info:** [www.it-training-courses.com/courses/java-spring-course.htm](http://www.it-training-courses.com/courses/java-spring-course.htm)

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## Web Application Development Using Spring, Hibernate and JPA

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**Description:** This course provides a comprehensive introduction to JPA, the Spring and Hibernate frameworks as well as Web Services and AJAX. Suitable for both Spring3/Hibernate3 and Spring4/Hibernate4, the course includes coverage of the core Spring and Hibernate capabilities, as well as the integration capabilities provided by Spring. This course includes complete coverage of the three main configuration styles (@Configuration, @Component, XML), and guidelines for their usage. It also covers more advanced capabilities such as support for JDBC and persistence frameworks like Hibernate, Spring declarative transactions, and Spring integration with JEE Web technologies. It also covers fundamentals of JPA including JPA Annotations and JPQL (Java Persistence Query Language). Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Java SE 5+ programming experience and an understanding of object-oriented design principles. The course **Java Programming** or equivalent knowledge provides a solid foundation

**More Info:** [www.it-training-courses.com/courses/spring-hibernate-training-course.htm](http://www.it-training-courses.com/courses/spring-hibernate-training-course.htm)

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## Introduction to Spring 4, Spring MVC and Spring REST

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**Description:** This course introduces the techniques for using the powerful capabilities of Spring 4 including the three main configuration styles: Java-based (@Configuration), annotation-based (@Component), and the traditional XML-based configuration that may still play an important role in existing and new projects. The course starts with in-depth coverage on using the powerful capabilities of Spring's Core module to reduce coupling and increase the flexibility, ease of maintenance, and testing of your applications. Coverage also includes integrating persistence layers with Spring, using Spring's powerful AOP to program cross-cutting concerns in a safe and maintainable way and using Spring's declarative transaction capabilities. The course includes integrating Spring with Java EE Web applications and an introduction to Spring MVC and REST. Comprehensive hands-on labs provide reinforcement of the topics covered in the course and practical experience deploying solutions.

**Duration:** 5 days

**Prerequisites:** Java SE 5+ programming experience and an understanding of object-oriented design principles. The course **Java Programming** or equivalent knowledge provides a solid foundation

**More Info:** [www.it-training-courses.com/courses/spring-framework-mvc-training-course.htm](http://www.it-training-courses.com/courses/spring-framework-mvc-training-course.htm)

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## Introduction to the Spring 4 Framework

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**Description:** This course introduces the techniques for using the powerful capabilities of Spring 4 including the three main configuration styles: Java-based (@Configuration), annotation-based (@Component), and the traditional XML-based configuration that may still play an important role in existing and new projects. The course starts with in-depth coverage on using the powerful capabilities of Spring's Core module to reduce coupling and increase the flexibility, ease of maintenance, and testing of your applications. Coverage also includes integrating persistence layers (e.g. Hibernate/JPA) with Spring, using Spring's powerful Aspect Oriented Programming (AOP) to program cross-cutting concerns in a safe and maintainable way and using Spring's declarative transaction capabilities. It also covers integration of Spring with Java EE Web applications. Comprehensive hands-on labs provide reinforcement of the topics covered in the course and practical experience deploying solutions.

**Duration:** 3 days

**Prerequisites:** Java SE 5+ programming experience and an understanding of object-oriented design principles. The course **Java Programming** or equivalent knowledge provides a solid foundation

**More Info:** [www.it-training-courses.com/courses/java-spring-framework-training-course.htm](http://www.it-training-courses.com/courses/java-spring-framework-training-course.htm)

*"It was an excellent course that exceeded my expectations. Remote attendance was convenient and I felt as if I was in class on site."*

*– S.D., Amica Insurance*

*"The teachers know their stuff - the content was clear and concise. There were many 'real' examples to further explain their point!"*

*– R.V., Industrial Alliance Pacific Life Insurance Co.*



# SharePoint

Administration and Power User

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## SharePoint 2016 Power User

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**Description:** This course thoroughly covers out-of-the-box features of SharePoint and how to customize these features to make the most of your SharePoint environment. The course begins with an overview of SharePoint system architecture, then moves on to creating SharePoint Web applications, site collections and sites. From there, students will add Web pages to sites and create navigation solutions for users to easily locate data. Students learn how to create new sites from scratch, as well as with built-in templates. Included are team sites, wikis, blogs, Web databases and meeting workspaces. Pages and Web parts are then added to sites to provide greater flexibility to the way SharePoint is presented to users. Included are techniques for using lists to promote information sharing, creating surveys, managing tasks and projects, as well as sharing calendars. Comprehensive hands on exercises illustrate the concepts and techniques presented, and provide practice creating common SharePoint components.

**Duration:** 3 days

**Prerequisites:** Familiarity with Windows Server 2012 R2 or Windows 8.1 operating system environment. Basic understanding of NTFS file and folder structure and network access.

**More Info:** [www.it-training-courses.com/courses/sharepoint-2016-power-user-course.htm](http://www.it-training-courses.com/courses/sharepoint-2016-power-user-course.htm)

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## SharePoint 2013 Power User

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**Description:** This hands-on course thoroughly covers out-of-the-box features of SharePoint and how to customize these features to make the most of your SharePoint environment. The course begins with an overview of SharePoint system architecture, then moves on to creating SharePoint web applications, site collections and sites. From there, students will add Web pages to sites and create navigation solutions for users to easily locate data. Students learn how to create new sites from scratch, as well as by built-in template. Included are team sites, wikis, blogs, web databases and meeting workspaces. Web parts and pages are then added to sites to provide greater flexibility in the way SharePoint is presented to users. Included are techniques for using lists to promote information sharing, creating surveys, managing tasks and projects, as well as sharing calendars. Comprehensive hands on exercises illustrate the concepts and techniques presented, and provide practice creating common SharePoint components.

**Duration:** 3 days

**Prerequisites:** Familiarity with Windows 7 and/or Windows 8 operating systems. Basic understanding of Windows user logon accounts and passwords. Basic understanding of shared file and folder access and NTFS permissions.

**More Info:** [www.it-training-courses.com/courses/sharepoint-power-user-course.htm](http://www.it-training-courses.com/courses/sharepoint-power-user-course.htm)



# Unix/Linux

Fundamentals, Administration and Shell Programming



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## UNIX/Linux Fundamentals and Shell Scripting

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**Description:** This hands on course provides training on standard UNIX/Linux commands and utilities used for day to day tasks including file manipulation, program execution and control, and effective use of the shell and desktop environments. The course presents the concepts necessary to understand the way UNIX works as well as the system's most commonly used commands. Data manipulation utilities and shell syntax for synthesizing command pipelines are emphasized. Bourne shell, Bash shell and Korn shell programming techniques are introduced so students will be able to read and modify existing shell scripts as well as create their own. Desktop environments are also introduced from a user's perspective, including common window managers, Open Office utilities and an introduction to configuration tools. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** None.

**More Info:** [www.it-training-courses.com/courses/unix-course.htm](http://www.it-training-courses.com/courses/unix-course.htm)

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## Korn Shell and Bash Shell Programming

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**Description:** This hands on Korn and Bash Shell scripting course provides a comprehensive introduction to writing Korn and Bash shell scripts. Besides covering fundamental syntax for program flow control, variable assignment and substitution, I/O control, and mathematical expressions, it emphasizes the powerful features of these shells, including built-in string operators, variable typesetting/conversion, functions, and coprocess communication and control. The creative use of standard UNIX and Linux utilities within scripts to solve problems is stressed throughout. The course is designed for the administrators and programmers who are developing, testing, or integrating software on UNIX or Linux, as well as for advanced UNIX or Linux users. Both the commonalities and differences between the Korn and Bash shells are examined, and students will have the opportunity to learn from examples coded in both shells. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 3 days

**Prerequisites:** Familiarity with UNIX file system and commands. Students who are not familiar with UNIX file system and commands should register for the course **UNIX/Linux Fundamentals**.

**More Info:** [www.it-training-courses.com/courses/korn-shell-training.htm](http://www.it-training-courses.com/courses/korn-shell-training.htm)

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## Linux System Administration

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**Description:** This hands-on Linux administration course teaches students how to install, configure and maintain an Enterprise Linux system in a networked environment. Students will learn to perform basic administrative tasks such as adding and managing users, creating and maintaining file systems, developing and implementing a security policy, as well as performing software installation and package management. Additionally, students will perform Linux network-related tasks, to include installing and supporting SSH, NFS, Samba, and the Apache Web server. Although the labs include installing and configuring a CentOS Red Hat Enterprise Linux system (students can choose version 6 or 7), much of the course content also applies to SuSE, Ubuntu, Oracle and other current versions of mainstream Linux distributions. Class participants will also discuss common security issues, and be introduced to several tools, such as PAM modules, that can help secure the operating environment. Upon completion of this course, students will be prepared to competently maintain a Linux system in a networked business environment. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Experience with common UNIX/Linux user-level commands, such as for moving, copying and editing files. Attendance at the **UNIX/Linux Fundamentals** course provides a solid foundation.

**More Info:** [www.it-training-courses.com/courses/linux-training.htm](http://www.it-training-courses.com/courses/linux-training.htm)

*"Thank you so much for this experience! I definitely learned a lot and feel so much more equipped to tackle my job."  
– D.H., Advisory Board Company*

*"Awesome instructor. She was very detailed with her explanations and was very helpful in figuring out complex designs. I would highly recommend this course to anyone."  
– G.C., Stanford Hospital and Clinics*



# C and C++ Programming

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## C Programming

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**Description:** This hands on C programming course provides a comprehensive introduction to the ANSI C language, emphasizing portability and structured design. Students are introduced to all major language elements including fundamental data types, flow control, and standard function libraries. Thorough treatment is given to the topics of string and character manipulation, dynamic memory allocation, standard I/O, macro definition, and the C runtime library. The course explains the use of aggregate structures, unions, and pointers early on so the students can practice extensively in the hands on labs. Structured programming constructs and varargs functions are also covered. Emphasis is given to the processing of command line arguments and environment variables so students will be able to write flexible, user-friendly programs. The course also includes coverage of portability tips drawn from experienced programmers working in production environments. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.

**Duration:** 5 days

**Prerequisites:** Understanding of fundamental programming concepts.

**More Info:** [www.it-training-courses.com/courses/c-programming-course.htm](http://www.it-training-courses.com/courses/c-programming-course.htm)

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## C++ Programming for C Programmers

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**Description:** This C++ course presents a thorough introduction to object-oriented programming in C++ for experienced C programmers. The central concepts of C++ syntax and style are taught in the context of using object-oriented methods to achieve reusability, adaptability and reliability. Emphasis is placed on the features of C++ that support abstract data types, inheritance, and polymorphism. Students will learn to apply the process of data abstraction and class design. Extensive programming examples and exercises are provided, with approximately half of course time spent performing hands on programming labs. Practical aspects of C++ programming including efficiency, performance, testing, and reliability considerations are stressed throughout.

**Duration:** 4 days

**Prerequisites:** Prior programming experience with C.

**More Info:** [www.it-training-courses.com/courses/c++-course.htm](http://www.it-training-courses.com/courses/c++-course.htm)

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## C++ Programming for Non-C Programmers

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**Description:** This C++ programming course provides an accelerated introduction to the most essential syntactical components of the C and C++ languages on the first day, prior to four days of focus on object-oriented programming with C++. The course begins by introducing the built in data types, fundamental control constructs, and rich expression operator repertoire common to both C and C+. The remainder of the course teaches object-oriented programming using features of C++, congruent with the C++ for C Programmers course. Hands on exercises are performed throughout each day to demonstrate key concepts and assure mastery by the student.

**Duration:** 5 days

**Prerequisites:** Prior programming experience, though not necessarily in C or C++. Some prior knowledge of basic C syntax is helpful but not required.

**More Info:** [www.it-training-courses.com/courses/c++-programming.htm](http://www.it-training-courses.com/courses/c++-programming.htm)