MODERN .NET WEB DEVELOPMENT PROGRAM

A ten-week comprehensive program covering web development using the latest Microsoft® .NET technologies

DePaul University's Modern .NET Web Development Program is designed to provide programmers with an intensive and comprehensive introduction to all essential aspects of the technologies, techniques and principles of Microsoft .NET web development. The program stresses an understanding of the relevant technologies, an understanding of the most common products, and the use of the Web as a platform to deliver solutions to business problems in both on-premises and cloud-based hosting environments. Topics include: Visual Studio 2019 and .NET Core 3.1+; Common Language Runtime (CLR); C# language; ASP.NET (MVC and WebAPI); ADO.NET, LINQ, and Entity Framework; assemblies; memory management; jQuery; Bootstrap; AngularJS; Restful Web Services; .NET security; caching; and, threading models.

Classroom lectures and demonstrations will be complemented by reading and programming assignments. The student will be provided with the .NET Framework, Visual Studio 2019, and supporting tools enabling the student to develop and test applications.

YOU WILL BE ABLE TO:

- Explain primary .NET architecture components (CLR, CTS, BCL)
- Understand the .NET ecosystem, including the full runtime and .NET Core implementations
- Gain competence in building scalable web applications
- Gain competence in writing applications using ASP.NET MVC framework
- Use Entity Framework ORM with SQL Server
- Explore modern authentication / authorization methods with the Microsoft ASP.NET Identity Framework
- Explore Windows Azure and how to build applications that leverage modern cloud-based infrastructure
- Explore Single Page Architectures using WebAPI and AngularJS

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.NET is a modern, open source platform designed to build a variety of high performance applications on Windows, Mac and Linux. Microsoft provides development tools for all types of developers. Visual Studio for Windows and Mac allow for development of applications on a variety of platforms while Visual Studio Code allows any developer to build web applications. The Visual Studio development environment gives the user the choice of using C#, Visual Basic or any of the many languages supported by .NET such as F#, Python and Perl to name a few.

The goal of the Modern.NET Web Development Program is to give the programmer an excellent understanding of the entire sweep of the .NET initiative, the tools and knowledge to develop modern Web applications, and also an exploration of likely future directions. The principal language that will be used in the program is C#.

Students in the Modern .NET Web Development Program are expected to do a considerable amount of work outside of class. The software provided enables the student to maximize learning opportunities. Instructors will be accessible in person and through electronic mail. The participant must have a solid programming background (at least two years of professional software development experience is required); some experience with web application frameworks is recommended, along with a basic knowledge of HTML, CSS and databases.

CURRICULUM

The following topics are covered in the program. Each unit involves reading assignments. All work can be done using the software provided; some of the work can also be done using the Institute's dedicated laboratories.

YOUR LEARNING ENVIRONMENT

Introduction to .NET. Tools and software distributed to the students.

.NET FRAMEWORK


COMMON LANGUAGE RUNTIME


BASE CLASSES


OBJECT-ORIENTED PROGRAMMING


C# Structure


.NET SECURITY


CLOUD SERVICES

Microsoft Azure. Hosting, patterns, deployment, lifecycle.

ADO.NET

Entity Framework, Connected Mode, Transactions, Concurrency

WEB BASICS


ASP.NET MVC AND WEBAPI

GENERAL INFORMATION

ADMISSION
Applicants must have a solid programming background (at least two years of professional software development experience is required); some experience with web application frameworks is recommended, along with a basic knowledge of HTML, CSS and databases.

A substantial commitment of time is required for this intensive course of study. Acceptance into the program will be determined by the admissions committee on the basis of an applicant's overall qualifications, including work history and educational background.

FACILITIES
To promote the learning process, the Institute maintains special-purpose laboratories as well as dedicated classrooms equipped with state-of-the-art audio/visual equipment.

In addition, the college’s unique Course OnLine (COL) technology allows students to replay classes over the Internet. COL captures and replays several components of the classroom experience—audio, video, PC screen, and whiteboard—and incorporates them into one interface to provide an innovative rebroadcast system.

CLASSES
The Institute offers one section of the program each quarter. Classes meet one evening per week and in the morning on approximately half of the Saturdays during the program. The option to take the program entirely online is also available.

FACULTY
The faculty consists of a team of instructors from the College of Computing and Digital Media and experts from industry. Faculty will be available throughout the program both in person and through electronic mail.
The college, through its School of Cinematic Arts, School of Computing, and its School of Design, offers a variety of programs at the undergraduate and graduate levels. Almost 4,000 students are enrolled in the college’s bachelor’s programs and more than 2,000 students are enrolled in the master's and Ph.D. programs making the college’s graduate program one of the largest in the country. The college offers more than 400 courses each quarter, many in the evening, and primarily in the Loop and Lincoln Park Campuses. Most of the degree programs are also available exclusively online.

**Offerings at the undergraduate level include:**

- Animation B.A. / B.F.A.
- Computing B.A.
- Computer Science B.S.
- Cyber-Physical Systems Engineering B.S.
- Cybersecurity B.S.
- Data Science B.S.
- Film and Television B.A. / B.F.A.
- Game Design B.S.
- Game Programming B.S.
- Graphic Design B.F.A.
- Industrial Design M.F.A.
- Information Systems B.S.
- Information Technology B.S.
- Math and Computer Science B.S.
- Network Engineering and Security B.S.
- User Experience Design B.S.

**Offerings at the graduate level include:**

- Animation M.A.
- Business Information Technology M.S.
- Computational Finance M.S.
- Computer Science M.S.
- Cybersecurity M.S.
- Data Science M.S.
- Digital Communication and Media Arts M.A.
- Experience Design M.A.
- Film and Television M.S.
- Game Programming M.S.
- Health Informatics M.S.
- Human-Computer Interaction M.S.
- Information Systems M.S.
- Network Engineering and Security M.S.
- Product Innovation and Computing M.S.
- Software Engineering M.S.
- J.D./M.S. in Computer Science Technology

**Master’s of Fine Arts**

- Animation
- Creative Producing
- Documentary
- Film and Television Directing
- Game Design
- Screenwriting

**Ph.D. in Computer and Information Sciences**

**Ph.D. in Human Centered Design**

The Institute for Professional Development was formed by the college in 1984 to assist both individuals and businesses in keeping pace with the rapid development of computer technologies. The Institute currently offers a variety of intensive certificate programs in these areas:

- Advanced Data Science with Python
- Advanced Python
- Advanced SQL
- Artificial Intelligence for Enterprise
- Automated Software Testing
- Big Data and NoSQL
- Big Data Using Spark
- Cloud Computing Technologies
- Cybersecurity Risk Management
- Data Analytics with Excel and Tableau
- Data Science for Business
- Data Science: Programming with Python
- DevOps
- Fundamentals of R
- Fundamentals of Statistics and Machine Learning Using R
- Incident Response and Digital Forensics
- Introduction to SQL
- iOS Developer
- Machine Learning and Deep Learning
- Modern .NET Web Development
- SQL Server® Business Intelligence
- SQL Server® Database Administration
- Web Development with JavaScript & HTML5

You do not have to be an existing DePaul student to take this certificate program. All interested parties must apply for admission. Prospective students may complete the [online application](#) and pay the (non-refundable) $40.00 application fee online during the application process. Alternatively, prospective students may print, complete and return the [printable application](#) via mail or email (ipd@cdm.depaul.edu), and mail the (non-refundable) $40.00 application fee (check or money order made payable to DEPAUL UNIVERSITY) to:

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