CS G196: WEB PROGRAMMING WITH .NET

Item	Value
Top Code	070710 - Computer Programming
Units	4 Total Units
Hours	108 Total Hours (Lecture Hours 54; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)

Course Description

Students will study and build eCommerce and eBusiness applications using various tools, languages, & utilities to include: Visual Basic .Net, C#, Code Behind, Active Server Pages.Net, ActiveX Data Objects.Net, Structured Query Language (SQL) & Common Gateway Interface. Web services will be discussed and implemented using XML, SOAP, WSDL, & UDDI. This course prepares students for Microsoft .NET Framework Web-Based Development Certificate. ADVISORY: CS G177 or CS G178. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Course Outcomes
2. Describe the basic principles of a multi-tiered application running on the World Wide Web.
3. Explain the mechanisms for proper class hierarchy and component design in ASP.net.
4. Describe the software development tools and methodologies for creating distributed multi-tiered application.

Course Objectives

- 1. Understand global networking TCP/IP protocol internals.
- 2. Describe N-tier application architecture NET framework.
- 3. Understand .NET languages, and IIS Installation and Configurations.
- 4. Develop web application for ASP.NET architecture using AJAX, jQuery, Web Forms, and Controls.
- 5. Describe Web state management, ADO.NET, LINQ, and the ADO.NET Entity Framework.
- 6. Implement Exception Handling, Debugging, and Tracing.
- 7. Write code using data binding, Code-Behind, XML, SOAP, Web Services, WSDL, and UDDI Web services.
- 8. Describe web security and policies.

Lecture Content

The following outline describes the course contents and objectives: Global networking TCP/IP protocol internals N-tier application architecture .NET Framework IIS web server installation and configuration The anatomy of a web application Overview of VB.Net and C# Implementation of a class library Overview of ADO.Net Integration of the class library with ADO.Net ASP.Net application overview Implementation of web forms Implementation of supporting Code-Behind Application state/session management Implementation of web components Adding client-side scripting (JavaScript, ASP.NET AJAX, and jQuery) Overview of XML, SOAP, Web Services, WSDL, and UDDI Implementation of a Web Service Application of security engines to web applications Guest lecturers will be invited to discuss the current subjects/trends in eCommerce and eBusiness applications. Students may be required to write summary papers on the discussions.

Lab Content

TCP/IP protocol internals Implement N-tier application architecture Overview of IIS web server installation and configuration Program and control a web application Overview of VB.Net and C# Implement a class library Overview of ADO.Net Integration of the class library with ADO.Net ASP.Net application overview Implementation of web forms Implementation of supporting Code-Behind Application state/session management Implementation of web components Adding client-side scripting (JavaScript, ASP.NET AJAX, and jQuery) Overview of XML, SOAP, Web Services, WSDL, and UDDI Implementation of a Web Service Application of security engines to web applications

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

Lecture using presentation and programming examples. Guided reading and assignments submitted online.

Reading Assignments

A.Required Readings such as:Students will be assigned multiple chapters from the required book. External material will be made known to students to encourage further studies into specific topics.Students will be assigned to read online material found on various WWW pages.

Writing Assignments

Students will be required to complete assignments including: WWW research assignments Programming assignments Individual or group term-project

Out-of-class Assignments

An optional library research paper will promote further study and research software development for the WWW or other related topics selected by the student and approved by the instructor.

Demonstration of Critical Thinking

Class assignments will be presented to the students in the form of problems requiring students to devise solutions in the form of software development projects.Also, students will be assigned a real-life business automation problem and required to build a web-based solution using the relevant web technologies.

Required Writing, Problem Solving, Skills Demonstration

Students will be required to complete assignments including: WWW research assignments Programming assignments Individual or group term-project

Eligible Disciplines

Computer science: Masters degree in computer science or computer engineering OR bachelors degree in either of the above AND masters degree in mathematics, cybernetics, business administration, accounting or engineering OR bachelors degree in engineering AND masters degree in cybernetics, engineering mathematics, or business administration OR bachelors degree in mathematics AND masters degree in cybernetics, engineering mathematics, or business administration OR bachelors degree in any of the above AND a masters degree in information science, computer information systems, or information systems OR the equivalent. Note: Courses in the use of computer programs for application to a particular discipline may be classified, for the minimum qualification purposes, under the discipline of the application. Masters degree required.

Textbooks Resources

1. Required Imar Spaanjaars. Beginning ASP.NET 4.5.1: in C# and VB, 1st ed. Wrox, 2014 2. Required Matthew MacDonald and Adma Freeman. Pro ASP.NET 4 in C#, 4th ed. Apress, 2010 3. Required Andrew W. Troelsen. Pro C# 2010 and the .NET 4 Platform, 5th ed. Wrox, 2010 4. Required Ransolph, Gardner, Anderson and Minutillo. Professional Visual Studio 2010, 1st ed. Wrox, 2010 5. Required Rick Kiessig. Ultra-Fast ASP.NET: Build Ultra-Fast and Ultra-Scalable websites using ASP.NET and SQL Server, 1st ed. Apress, 2009 6. Required I. Novak, A. Velvart, A. Granicz and G. Balassy. Visual Studio 2010 and .NET 4 Six-in-One, 1st ed. Wrox, 2010

Other Resources

1. A syllabus, and multiple reference material will be distributed by the instructor.