

Web Site Development and Design Certificates

Minor in Web Site Development

A minor in Web site development is defined as 18 credit hours of courses from the Web site development certificate program course listings taken at Webster University. This minor may be taken in lieu of the certificate program.

Minor in Web Site Design

A minor in Web Site Design is defined as 18 credit hours of courses from the Web Site Design certificate program course listings taken at Webster University. This minor may be taken in lieu of the certificate program. Students may choose to receive either the minor or certificate but not both.

Certificate Program: Web Site Development

(18 required credit hours)

Offered in Charleston, Columbia, Greenville, Kansas City, Orlando, San Diego, St. Louis, Geneva, Leiden, Thailand and Vienna; offered online

The courses offered in the Web site development certificate provide students with basic knowledge and skills necessary to design and develop professional Web sites. The content of the program emphasizes the technical development of the site, including the use of HTML programming, additional markup and scripting languages, and other tools to manipulate data on a Web site. Students are encouraged to use their creative skills and artistic ability as well, to design pages that are unique, attractive, and effective in communicating information. The program includes practical experience with numerous hands-on and real-life projects.

As businesses and organizations are developing and maintaining Web sites at an astonishing rate, more technical and programming expertise is required for those who develop and maintain these sites. The Web site development certificate is designed to meet that particular need.

Students must take a total of six courses from the list of courses given below. Those courses marked with an asterisk (*) are required.

Requirements

| | |
|--------------------------------------------|---------|
| COAP 2000 XHTML Programming (Prerequisite) | 3 hours |
| COAP 2100 Web Technology Principles * | 3 hours |
| COAP 2130 Web Scripting * | 3 hours |
| COAP 2160 Advanced Web Animation | 3 hours |
| COAP 2180 Introduction to XML * | 3 hours |
| COAP 3000 Dynamic HTML * | 3 hours |
| COAP 3110 Interactive Site Development * | 3 hours |
| COAP 3180 Web Databases * | 3 hours |

All courses available via the Internet.

Program Learning Outcomes for the Undergraduate Web Development Certificate and Minor

- Students will demonstrate critical thinking skills.
- Students will demonstrate the ability to solve problems related to the program content.
- Students will be able to code the features necessary for Web site development and deployment.
- Students will code and build Web sites.
- Students will be able to modify a web site, and provide both user and technical documentation.

Certificate Program: Web Site Design

(18 required credit hours)

Offered in Charleston, Columbia, Greenville, Kansas City, Orlando, San Diego, St. Louis, Geneva, Leiden, Thailand and Vienna; offered online

The courses offered in the Web site design certificate provide students with the skill necessary to design sites that are visually attractive and emphasize the human-computer interface aspects of Web sites. The content of the program emphasizes basic principles of attractive design and teaches students the techniques for using graphics on interactive, presentation, and commerce Web sites. Students are encouraged to use their creative skills and artistic ability to design pages that are unique, attractive, and effectively use both text and graphics for navigation and linking. The program includes practical experience with numerous hands-on and real-life projects.

As businesses and organizations are developing and maintaining Web sites at an astonishing rate, more artistic and design expertise is required for those who develop and maintain these sites. The Web site design certificate is intended to meet that presentation need.

Students must take a total of six courses from the list of courses given below. Those courses marked with an asterisk (*) are required.

Requirements

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|-----------------------------------------|---------|
| COAP 2000 XHTML Programming * | 3 hours |
| COAP 2100 Web Technology Principles | 3 hours |
| COAP 2110 Web Animation * | 3 hours |
| COAP 2120 Web Editors | 3 hours |
| COAP 2140 HTML Help Authoring | 3 hours |
| COAP 2150 Design Principles I * | 3 hours |
| COAP 3120 Designing with Style Sheets * | 3 hours |
| COAP 3150 Design Principles II * | 3 hours |

All courses available via the Internet.

Program Learning Outcomes for the Undergraduate Web Site Design Certificate and Minor

- Students will demonstrate critical thinking skills.
- Students will demonstrate the ability to solve problems related to the program content.
- Students will be able to explain the concepts and features necessary for web application development and deployment.
- Students will design and build Web applications.
- Students will be able to document a Web application including both user and technical documentation.

Course Descriptions

COAP 2000 XHTML Programming (3)

HTML is the programming language used to develop home pages on the Internet. This course covers the most current tools available for developing HTML documents and posting pages on the World Wide Web. This course covers the basics of XHTML (Extensible HTML).

COAP 2010 Applications Topics (3)

Covers a variety of computer applications and Web topics appropriate for students with some computer experience. May be repeated for credit when content differs. Prerequisites vary by topic.

Web Site Development and Design Certificates

COAP 2020 Desktop Publishing (3)

Designed to develop proficiency in page layout and design by utilizing the latest desktop publishing software, including related word processing and graphics tools. Emphasizes successful completion of a publication by the student. Prerequisite: COAP 1020.

COAP 2100 Web Technology Principles (3)

This course will focus on the core technologies students need to know in order to start designing professional Web pages. The course will cover basic Web principles and act as an introduction to the technology and tools required in Web design and coding, including XHTML, XML, CSS, JavaScript, HTTP, and others. Prerequisite: COAP 2000, or HTML proficiency.

COAP 2110 Web Animation (3)

This course covers animation techniques used in the creation of Web pages. Students will use Macromedia Flash as the tool for Web page design and Animation development. Prerequisite: COAP 2000.

COAP 2120 Web Editors (3)

In this course students learn methods of building, maintaining and supporting a Web site. The content created, to include documents, workbooks, presentations, and databases, will be built and published using software tools.

COAP 2130 Web Scripting (3)

This course teaches scripting (JavaScript) and programming techniques needed to develop leading-edge, interactive features for Web sites. The students will learn how to use scripting for form validation, browser detection and redirection, and producing interactive menus. Students will learn to add client-side scripts to HTML documents. Prerequisite: COAP 2100.

COAP 2140 HTML Help Authoring (3)

This course covers techniques used in HTML help authoring. Windows Help authoring methods will be covered, using Microsoft's Help Workshop, along with one or more other Help Authoring tools used in business.

COAP 2150 Design Principles I (3)

This course covers the analysis and design process for creating successful websites. Students will learn various methods for implementing web site navigation. Basic design principles useful in laying out professional and appealing pages including graphic file formats and design techniques such as web typography and color theory will be covered. An introduction to the internationalization of web sites and web accessibility will be introduced. Prerequisite: COAP 2000

COAP 2160 Advanced Web Animation (3)

This course is a study of Web publishing with an emphasis on mastery of animation using Flash and the internal scripting capabilities of Flash, ActionScript. Animation on Web sites will be studied via splash opening home pages, animated navigation graphics, and interactive animations developed as the primary content of Web sites. Students will learn the basic commands, functions, and operators used in ActionScript, building on their introductory knowledge of Flash to work with code that extends the boundaries of Flash's built-in tools, objects and properties. Prerequisites: COAP 2000, COAP 2110 and COAP 2130.

COAP 2180 Introduction to XML (3)

This course is designed to introduce the student to the building blocks of XML, a markup language that is used to structure documents for delivery on the Web. The course covers structuring data with XML, validating data with data type definitions (DTDs) and schemas, rendering data stored as XML documents in a browser, and creating and applying namespaces. Students will create both CSS and XSLT style sheets to display the XML documents. Prerequisite: COAP 2100.

COAP 2220 Microcomputer Software (3)

Provides advanced study of a variety of software packages, offered under different subtitles. May be repeated for credit if content differs.

COAP 2310 Graphics (3)

Studies different graphics techniques, offered under different subtitles. May be repeated for credit if content differs.

COAP 2550 Database Software (3)

Students learn to use a commercial database software package. In addition to the commands and uses of the software, this course emphasizes the principles and concepts involved in developing a database.

COAP 2560 Electronic Spreadsheet (3)

Students learn to use a commercial spreadsheet software package. In addition to the commands and uses of the software, this course emphasizes the principles and concepts involved in designing spreadsheets.

COAP 3000 Dynamic HTML (3)

Dynamic HTML refers to a set of new browser extensions that enable webmasters to build interactive Web pages. This course discusses the structure of dynamic HTML and emphasizes the main areas of innovation--script and event handling, windows, tables and text ranges, forms, controls and data binding, and style sheets. Prerequisite: COAP 2130.

COAP 3010 Advanced Applications Topics (3)

Covers a variety of computer applications topics appropriate for students with considerable computer experience. May be repeated for credit if content differs. Prerequisites vary by topic.

COAP 3110 Interactive Site Development (3)

This course provides an introduction to site development using Java Server Pages and Active Server Pages. It is designed for students who want to create and maintain Web pages as well as manipulate database information. Students will learn how to incorporate database in their sites, as well as how to update and query those databases. An introduction to e-commerce components to the web site will be included. Prerequisite: COAP 2130. Corequisite: COAP 3000.

COAP 3120 Designing with Style Sheets (3)

This course covers the styling of Web pages as laid out in the latest CSS specifications. Through the use of hands-on projects and code samples, the students will create style sheets in real-world exercises and master the skills to create effective style sheets on the Web. Prerequisites: COAP 2000 and COAP 2150.

COAP 3150 Design Principles II (3)

Continuation of COAP 2150. Students will implement the design from COAP 2150 into a complete web site with documentation. Digital graphic techniques such as the use of layers, masks, filters, and other special effects are covered. Students will also learn to work with scanned images, manipulate color contrast and balance, and handle various graphic file types. Prerequisite: COAP 2150 and COAP 3120

COAP 3180 Web Databases (3)

Students will learn how to create database-driven Web sites, implementing the latest technologies such as relational databases and XML. XQuery theory is covered, with special emphasis on hands-on learning skills to implement XML databases on the Web. Prerequisites: COAP 2130 and COAP 2180.