

Web Development Minor

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The Web Development minor is available for students who wish to develop a deeper understanding and practical skill sets in web development. Students selecting this Web Development minor will take 18 credit hours of coding, web development and computer applications courses.

Student Learning Outcomes:

- Students will gain skills in programming, develop algorithms using top-down stepwise refinement including competencies in arrays, pointers, strings, classes, data abstraction, inheritance, composition and overloading.
- Students will have hands on experience with excel spreadsheets and access databases.
- Students analyze the structure of an HTML document understanding page structures with sectioning elements.
- Students will create lists for grouping content and links, acquiring the skill to link to files on the same or a different Website.
- Students create websites and use CSS 3 to create interfaces with toolbars, animations, buttons, forms, lists, events and themes.

About Academic Minors

Farmingdale State College students are invited to enhance their studies with an "Academic Minor." A minor is a cluster of thematically related courses drawn from one or more departments. In addition to department based minors (e.g. computer programming & info systems), interdisciplinary minors are also available (e.g. legal studies).

Academic minors are approved by the College-Wide Curriculum Committee and the Provost. Students must make application for an academic minor through the department offering the minor in conjunction with the Registrar's Office. Specific course work must be determined in consultation with a faculty member in the department offering the minor. A statement of successful completion of the academic minor will appear on the student's transcript at the time of graduation.

- A minor is considered to be an optional supplement to a student's major program of study.
- Completion of a minor is not a graduation requirement and is subject to the availability of the courses selected. However, if the requirements for a minor are not completed prior to certification of graduation in the major, it will be assumed that the minor has been dropped. Consequently, the student will only be certified for graduation in their primary major.
- Only students in 4 year baccalaureate programs can apply for a minor.
- A minor should consist of 15 to 21 credits.
- At least 12 credits must be in courses at the 200 level or higher.
- At least 9 credits must be residency credits.
- Specific requirements for each minor are determined by the department granting the minor.
- Students must maintain a minimum cumulative GPA of at least 2.0 in their minor. Some minors may require a higher GPA.

- Students are prohibited from declaring a minor in the same discipline as their major (e.g. one cannot combine an applied math minor with an applied math major).

Academic minors may not apply to all curricula.

- Students are permitted to double-count courses.
- Students are only permitted to take more than one minor with appropriate written approval of their department chair or curriculum Dean.

Fall 2019 - Subject to Revision

Required:	(21 credits)
BCS 120 Foundations of Computer Programming I	3
BCS 130 Website Development I	3
BCS 160 Computers, Society, and Technology	3
BCS 230 Foundations of Computer Programming II	3
BCS 240 Website Development II	3
BCS 303 XML	3

BCS 200 Level or Higher Elective – To be determined in consultation with the Department Chair

When it is deemed necessary, substitutions may be made at the discretion of the Department Chair.

Course Descriptions

BCS 120 Foundations of Computer Programming I

This course introduces the C++ Programming Language as a means of developing structured programs. Students will be taught to develop algorithms using top-down stepwise refinement. Students will be introduced to the concept of Object Oriented programming. In addition, students will get a thorough exposure to C++ syntax and debugging techniques. Credits: 3

BCS 130 Website Development I

In this course, students will use both HTML and CSS to modify the appearance of Web page content and layout. Hypertext Markup Language (HTML) is a standardized code used to format web pages. Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language, such as HTML. In addition, students will learn the principles of Responsive Web Design to create an optimal viewing experience irrespective of the device used to display the Web page. Credits: 3

BCS 160 Computers, Society, and Technology

This is an introductory course that provides students with the knowledge to stay current and informed in a technology-oriented, global society. Students will receive instruction in basic computer concepts and terminology, the fundamentals of the Windows operating system and have hands-on experience at the beginning to intermediate level using Microsoft Excel and Access. The Internet will be used to supplement textbook and lecture materials. Note: Students taking this course may not receive credit for BCS 102 or 202. Credits: 3

BCS 230 Foundations of Computer Programming II

This course expands the knowledge and skills of Foundations of Computer Programming I. Among the topics covered are: arrays, pointers, strings, classes, data abstraction, inheritance, composition and overloading. Prerequisite(s): BCS 120 with a grade of C or higher Credits: 3

BCS 240 Website Development II

In this course, students will learn how to create websites that deliver a seamless experience across a diverse range of desktop, mobile, and handheld devices. In addition, students will learn how to perform forms validation, create navigation and menuing systems, build responsive layouts with flexible content, code media queries, and create and modify template and child pages. Students will use CSS 3 and a Content Management System to create user interfaces with toolbars, animations, buttons, forms, lists, events, and themes. Prerequisite(s): BCS 130 with a grade of C or higher Credits: 3

BCS 303 XML

Students will be introduced to the basic intermediate concepts of XML, the Extensible Markup Language. Students will learn how to create the XML document, work with name- spaces, Document Type Definitions, and XML schemas. In addition, students will also use the advanced features of XML, such as XPath and the XSLT stylesheet language to transform XML documents. Prerequisite(s): BCS 130 and BCS 120 all with a grade of C or higher Credits: 3

Admission to Farmingdale State College - State University of New York is based on the qualifications of the applicant without regard to age, sex, marital or military status, race, color, creed, religion, national origin, disability or sexual orientation.