



eCampus Academy
Watertown Unified School District
111 Dodge Street
Watertown, WI 53094
(920) 262-1420
ecampusacademy.org

IT-WEB SOFTWARE DEVELOPER PATHWAY – Course Descriptions

Gateway to Success - Course Number: 890-155 **Credits:** 1.00

In this course, students explore the Gateway Technical College community. They examine college resources and services, investigate skills that lead to academic success, and identify strategies for achieving educational and personal goals.

Java Programming 1 - Course Number: 152-184 **Credits:** 3.00

The course introduces the student to the fundamentals of object-oriented programming using the Java programming language. Students will learn the core aspects of Java including how to write and debug Java code. Labs and hands-on projects are a required element to this class and provide the student with experience working with the Java language.

Math Requirement - Course Number: OPTION-MATH.7A **Credits:** 3.00

Please complete 804-135 Quantitative Reasoning or 804-115 College Technical Math 1. This is for informational purposes only. Once you register for your course, you can delete this block from your timeline.

Programming in Python - Course Number: 152-081 **Credits:** 3.00

In this course, students investigate the fundamentals of computer programming using the Python programming language. Students examine data types, variables, conditional statements, looping, array structures, and structured programming techniques. Upon completion of the course, students will be able to use Python to apply problem solving skills to create applications for delivery to various platforms.

Web Programming - Course Number: 152-101 **Credits:** 4.00

In this course, students create websites using HTML and CSS and examine effective techniques for succeeding in the Web Software Developer career path. They explore fundamental IT skills, standards-based coding, and web page design techniques. Students practice image manipulation and working with forms, tables, and multimedia. They examine accessibility issues, code validation, web content publishing, and an introduction to JavaScript. Upon completion of this course, students will be able to create a complete website using HTML and CSS for delivery to various platforms.

Databases - Course Number: 152-080 **Credits:** 3.00

In this course, students explore concepts, design, documentation, and implementation of various database systems, including proprietary and open source technologies. Students implement Structured Query Language (SQL) to store, retrieve, and manipulate data. Students create queries, normalize database structures, and create stored procedures. Upon completion of this course, students will be prepared to develop and maintain databases used in application development.

Java Programming 2 - Course Number: 152-174 **Credits:** 3.00

This course focuses on the advanced language features of Java. Topics will include Java servlets, database access with Java Database Connectivity (JDBC), JavaServer Pages and JavaBeans. A portion of the class deals with application design issues in a web environment as well as connecting to a backed database server. Labs and hands-on projects are a required element to this class and provide the student with experience working with the more advanced features of the Java language.

Javascript - Course Number: 152-097 **Credits:** 3.00

This course will introduce students how to add intuitive, dynamic and animated interaction between their web pages and visitors. Using HTML.5 as a base, we will use Javascript, Ajax, and jQuery library to react to user actions and change webpage structure, content, and appearance. Through this course, students will learn how to dynamically refine, design appearance, control and manipulate HTML elements via the DOM API, and create content within a medium that is used for both desktop and mobile device computing.



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PHP Web Programming - Course Number: 152-188 Credits: 3.00

This hands-on PHP Web Programming course provides the knowledge necessary to design and develop dynamic, database-driven web pages. Students will learn how to write and debug PHP code, how to effectively use many of its powerful features, and how to design and build their own PHP web applications. Students will design and create a Web Database using the popular MySQL DBMS to function as a backend database for their PHP website.

English Composition - Course Number: 801-136 Credits: 3.00

This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents.

Advanced Web Programming - Course Number: 152-102 Credits: 3.00

In this course, students develop server-side web applications utilizing the NodeJS platform. They examine advanced web application development focusing on RESTful development techniques and various web Application Programming Interfaces (APIs). Students perform database operations and create data-driven applications using various tools for streamlining application development. Upon completion of this course, students will be able to build a NodeJS server-side application for delivery to various platforms.

Communication Requirement - Course Number: OPTION-COMM.1A Credits: 3.00

Please complete 801-196 Oral/Interpersonal Communication or 801-198 Speech. This is for informational purposes only. Once you register for your course, you can delete this block from your timeline.

Developing ASP.Net Web Apps - Course Number: 152-178 Credits: 3.00

In this course students will learn to use .NET Framework tools and technologies to develop advanced ASP.NET MVC applications. The focus will be on coding activities that improve performance and scalability of Web site applications. ASP.NET MVC will be introduced and compared with Web Forms so that students know when each should/could be used. This course will help prepare students for exam 70-486.

Introduction to Psychology - Course Number: 809-198 Credits: 3.00

This course introduces students to some of the major theories and topics of psychology, including the physiological basis of behavior, personality and learning theories, memory, states of consciousness, stress, research methods, intelligence, human development, psychopathology, and social behavior.

Advanced Programming in Python - Course Number: 152-103 Credits: 3.00

In this course, students build on basic Python programming skills. They examine advanced programming techniques, explore modern web frameworks, and utilize specialized modules and packages to develop Python applications. They utilize test-driven development (TDD) techniques and various tools for streamlining application development. Upon completion of this course, students will be able to develop robust Python applications for various platforms.

Front End Requirement - Course Number: OPTION-IT.1A Credits: 3.00

Please complete 152-084 Front-End Development with Angular or 152-001 Front-End Developer with React. This is for informational purposes only. Once you register for your course, you can delete this block from your timeline.

Mobile Device Application Programming - Course Number: 152-164 Credits: 3.00

This course teaches students to develop applications for mobile platforms. Students will utilize a Software Development Kit (SDK) to develop working applications.



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Web Frameworks - Course Number: 152-104 Credits: 3.00

In this course, students explore web applications using a variety of modern web development frameworks. They examine advanced server-side frameworks for creating dynamic data-driven web applications. Students utilize test-driven development (TDD) techniques and various tools for streamlining application development. Upon completion of this course, students will be able to build robust web applications using modern server-side frameworks for various platforms.

Economics Requirement - Course Number: OPTION-ECON.4A Credits: 3.00

Please complete 809-143 Microeconomics or 809-195 Economics. This is for informational purposes only. Once you register for your course, you can delete this block from your timeline.

Web Developer Project - Course Number: 152-083 Credits: 3.00

In this course, students examine the fundamental concepts of project management for web projects. Students implement the full project management life cycle, from the basics of getting started (defining the project and scope, prioritizing and estimating features) to developing and deploying the website. Students practice: user interface design, marketing strategies, secure web hosting and domain names, and search engine optimization techniques. Upon completion of this course, students apply project management skills to create a website or application, which they can add to their portfolio, for a business or industry client.

Web Software Developer Elective Credit - Course Number: OPTION-E152.4A Credits: 3.00

Complete three elective credits. The suggested electives are: 152-140 Web Internship; 145-119 Entrepreneurship; 809-172 Diversity Studies; 152-084 Front-End Development with Angular; 138-118 International Bizsquad; 801-198 Speech; or 152-001 Front End Development with React. This is for informational purposes only. Once you register for your course, you can delete this block from your timeline.