

INTERNET/INTRANET (WEB) (152)

152-101. Python Programming. (1 Credit)

This course introduces the Python Programming Language. Upon completion of this course, students will be able to write Python scripts that process input and output files, manipulate strings, parse text, perform calculations and write Regular Expressions. The course will include interactive lectures and outside course work.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=101>)

152-102. Mobile App Dev. (1 Credit)

In this hands-on course, discover how to build and deploy Android and iOS (iPhone) apps by applying your existing HTML and CSS skills using the PhoneGap Build service, an open-source development framework that is part of the Adobe Creative Cloud and Cordova.

Prerequisites: (152-169 with a minimum grade of C or 152-168 with a minimum grade of C or 152-105 with a minimum grade of C or 152-107 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=102>)

152-103. Mobile Application Development. (2 Credits)

Explore the entire life cycle of creating and distributing a mobile app, from UI design to app creation to distribution. Learn iPhone and Android user interface design guidelines and create apps with your existing technical skills using cross-platform frameworks and tools.

Prerequisites: 152-109 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=103>)

152-104. Advanced Python Programming. (1 Credit)

Expand upon the skills you learned in Python Programming by exploring advanced data types, best practices and object-oriented coding within the context of design patterns.

Prerequisites: 152-101 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=104>)

152-105. Intro to Web Development. (2 Credits)

Learn to create websites with HTML 5, CSS 3 and Dreamweaver with an understanding of various design concepts including usability, web style and Search Engine Optimization (SEO). Prepare to manage a website with common site management tools on a Windows and Linux server. Collect and present website analytics and usage reports. Articulate the role that content management systems play in the market and create a site in WordPress that implements all the tools and techniques taught in the course.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=105>)

152-107. Introduction to Programming. (2 Credits)

Learn C# using Visual Studio. Create console applications to accept input and create output to the screen and file system. Implement conditionals, loops and variables to meet the requirements of each project and assignment. Break each project and assignment down into individual tasks and processes. Ensure the correct program flow and document tasks, decisions and loops using flow charts and pseudocode. Use collections with system data types and explore object-oriented programming considerations and techniques. The class will focus on foundational programming and logic skills to prepare you for a career in information technology.

Prerequisites: Computer Skills Assessment70 or College Profi - Comp Skills or Work Experience - Comp Skills or 860-702 with a minimum grade of S

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=107>)

152-108. Web Server Administration. (2 Credits)

Obtain technical skills useful for web developers and an overview of networking, including the OSI Model, TCP/IP protocol suite, DNS, NAT and DHCP. Explore a variety of security principles such as least privilege, firewall configuration, permissions and port security. Gain an introduction to Windows and Linux server administration, and learn how to install and configure both Microsoft IIS and Linux Apache web servers. Plus, develop strategies for deploying web applications.

Prerequisites: 152-105 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=108>)

152-109. .Net Web Development. (4 Credits)

Explore the server side of web application development using the ASP .NET Model View Controller (MVC) design pattern. Use C# with Razor to build dynamic, database-connected web applications. Design, develop, implement and maintain a significant MVC application project hosted on an external web server using your own domain. Learn how to manage a web hosting account, publish MVC web applications, and create views, controllers, models and layouts. Gain skills to create responsive applications using the Bootstrap framework and apply progressive enhancement using jQuery, CSS animations and Modernizr. Explore route mapping, LINQ, the Entity framework, AJAX and performing CRUD (create, read, update, delete) operations. Plus, learn how to secure your applications with user- and role-based authentication and the ASP .NET Identity framework.

Prerequisites: (152-168 with a minimum grade of C or 152-169 with a minimum grade of C) and (156-101 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=109>)

152-111. Python - Game Development. (1 Credit)

Learn the techniques of game design by coding popular games such as Pong, tower defense and a simple platformer using the Python programming language. Learn how to handle input from a keyboard and mouse, use GUI libraries such as Pygame to render graphics, and program basic artificial intelligence algorithms. Use object-oriented principles to create modular, well-designed games.

Prerequisites: 152-104 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=111>)

152-112. Intro to Programming with C#. (3 Credits)

Learn to program using the C# programming language, and get an introduction to programming logic, including sequential commands, decisions, loops and arrays. Study object-oriented programming (OOP) concepts such as class design and instantiation, variable scope, inheritance, interfaces, enums, encapsulation and polymorphism. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=112>)

152-113. Python - IOT Development. (1 Credit)

Today, nearly anything can be connected to the internet, including televisions, thermostats, garage doors and more. Explore the basics of electricity and harness it to create DC circuits that utilize buttons, diodes, LEDs, resistors, jumpers, sensors and more. Ultimately, create a system that can communicate with your DC circuit using a microcontroller and Python.

Prerequisites: 152-101 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=113>)

152-115. Database Concepts and SQL. (3 Credits)

This course will lay the groundwork for successful creation and use of databases and focus on real-world scenarios. Students will learn SQL, including joins, aggregate functions, subqueries, and the basics of security and permissions. Students will learn to analyze report requests and create basic reports. Normalization and database design will be introduced.

Prerequisites: (152-107 with a minimum grade of C or 150-154 with a minimum grade of C or 152-138 with a minimum grade of C or 152-134 with a minimum grade of C) and (804-133 (may be taken concurrently) with a minimum grade of C or 804-123 (may be taken concurrently) with a minimum grade of C or 804-118 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=115>)

152-129. PHP Web Development. (3 Credits)

This PHP programming course provides the knowledge necessary to design and develop dynamic, database-driven web pages using PHP. PHP is a language written for the web, quick to learn, easy to deploy and provides substantial functionality required for e-commerce. This course introduces the PHP framework and syntax, and it covers in depth the most important techniques used to build dynamic web sites. Perform hands-on practice with a MySQL database to create database-driven HTML forms and reports.

Prerequisites: (152-169 with a minimum grade of C or 152-168 (may be taken concurrently) with a minimum grade of C) and 804-133 with a minimum grade of C and (201-110 with a minimum grade of C or 152-105 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=129>)

152-130. Introduction to Java. (2 Credits)

This course is for students who have successfully completed an introduction to programming course with object-oriented programming (OOP). Explore the syntax and nuances specific to Java concerning data types, conditional and loop structures, method calls, static variables, functions and arrays. Explore advanced Java topics, including Enums, I/O, collections and multi-threading.

Prerequisites: (804-133 (may be taken concurrently) with a minimum grade of C or 804-116 (may be taken concurrently) with a minimum grade of C or 804-118 (may be taken concurrently) with a minimum grade of C or 804-195 (may be taken concurrently) with a minimum grade of C or 804-198 (may be taken concurrently) with a minimum grade of C) and 152-112 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=130>)

152-131. Software Architecture. (2 Credits)

Learn how to design and build software systems that are scalable, robust and adherent to industry best practices. Explore the three essential principles of object-oriented software engineering: GRASP, SOLID and the Gang of Four (GoF) design patterns. Demonstrate your understanding of these principles through coding projects in the object-oriented language of your choosing.

Prerequisites: (152-130 (may be taken concurrently) with a minimum grade of C or 152-138 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=131>)

152-134. Java Programming. (4 Credits)

Get a rigorous introduction to the Java J2SE programming language and object-oriented (OOP) programming concepts such as class responsibilities, composition, inheritance, interfaces, encapsulation and polymorphism. Design and build java desktop applications and applets using Sun Microsystems J2SE Java Development Kit and popular Integrated Development Environments. Explore the Java API (standard class libraries) and techniques for building graphical user interfaces and business logic.

Prerequisites: (152-107 with a minimum grade of C or 152-106 with a minimum grade of C or 152-169 with a minimum grade of C) and (804-133 (may be taken concurrently) with a minimum grade of C or 804-118 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=134>)

152-135. Advanced Java Programming. (4 Credits)

Expand your Java programming skills by practicing object-oriented analysis and design. Explore industry standard design patterns (GRASP and GoF) and architectural best practices (programming to interfaces and using composition, e.g.) that lead to improved software quality, flexibility and maintainability. Additionally, discover algorithms, file I/O and collections.

Prerequisites: (152-134 with a minimum grade of C or 152-138 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=135>)

152-137. Mobile iOS App Development. (4 Credits)

Get introduced to the exciting world of iPhone application development. Discussion topics include the iPhone SDK, the Cocoa Touch Framework, the Model View Controller (MVC) paradigm, the Objective C programming language, the Development tools, XCode and Interface Builder, the iPhone Simulator, and core animation and graphic development for iPhone applications. This course is intended for anyone interested in learning more about iPhone applications, and how they are developed and used to increase productivity personally and professionally.

Prerequisites: (152-134 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=137>)

152-138. Java Programming. (3 Credits)

Learn to program using the Java programming language, and get an introduction to programming logic, including sequential commands, decisions, loops and arrays. Study object-oriented programming (OOP) concepts such as class responsibilities, composition, inheritance, interfaces, encapsulation and polymorphism.

Prerequisites: (Computer Skills Assessment70 or College Profi - Comp Skills or Work Experience - Comp Skills or 860-702 with a minimum grade of S) and (804-133 (may be taken concurrently) with a minimum grade of C or 804-118 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=138>)

152-139. Web Development/PHP2. (3 Credits)

This PHP course is a continuation of the first that places emphasis on e-commerce skills including user authentication, data validation, dynamic data updates and shopping cart implementation. Also learn how to configure PHP on the Apache Web Server. Comprehensive lab exercises provide facilitated hands-on practice crucial to developing competence and confidence with the new skills being learned.

Prerequisites: 152-129 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=139>)

152-140. Android App Development. (4 Credits)

This course introduces you to Android Device application development. Discussion topics include the Google SDK, the Android programming environment, architecture, and tools. Students will create applications using XML-Based Layouts, Widgets, Containers and Lists. This course is intended for anyone interested in learning more about Android applications, how they are developed and used to increase productivity personally and professionally.

Prerequisites: 152-134 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=140>)

152-141. Mobile Web App Development. (3 Credits)

Create cross-platform mobile web applications using HTML, CSS, JavaScript and Ajax. Course projects will be tested on iOS as well as Android devices. In addition, you will learn how to create data-driven mobile web applications that will run on both iOS and Android devices. This course is intended for anyone who has a web development background, either in school or professionally, and is interested in enhancing their skills to include mobile web application development. Familiarity with HTML and JavaScript and relational databases is beneficial.

Prerequisites: 152-137 with a minimum grade of C or 152-140 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=141>)

152-142. Mobile Application Development. (3 Credits)

Explore the entire life cycle of creating and distributing a mobile app, from UI design to app creation to distribution. Learn iPhone and Android user interface design guidelines and create apps with your existing technical skills using cross-platform frameworks and tools.

Prerequisites: 152-109 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=142>)

152-143. WordPress Development. (3 Credits)

Learn object-oriented PHP techniques to customize WordPress and develop custom plugins.

Prerequisites: 152-129 with a minimum grade of C and 201-125 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=143>)

152-144. Integrated Web Development. (3 Credits)

This course will focus on utilizing a strategic web development workflow. Topics include setting up a local development environment, package managers, version control, automation, and deployment.

Prerequisites: 152-179 with a minimum grade of C and (152-143 with a minimum grade of C or 152-139 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=144>)

152-145. Advanced Web Services Developm. (2 Credits)

Today virtually anything can be connected to the internet – televisions, thermostats, doorbells, garage doors, refrigerators, etc. To do this, you will create RESTful web services using .NET Core and MS SQL Server. Learn the basics of electricity, including voltage, current and resistance and how they are related using Ohm's Law. Harness electricity to create DC circuits that use buttons, diodes, LEDs, resistors, jumpers, sensors and more. The ultimate goal is to create a system that can communicate with your DC circuit using a microcontroller such as a Raspberry Pi or Arduino. That system will connect to the Internet of Things using your .NET Core Web API.

Prerequisites: 152-109 with a minimum grade of C and 152-179 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=145>)

152-149. Content Management Systems. (3 Credits)

Content management systems support the process of collecting and publishing content on the Web. Content management systems also provide a platform for many "community" features such as comments, discussion and chat. Learn a process for identifying content types and establishing a workflow for editing and approving content, then configure a content management system to meet the needs of an outside client.

Prerequisites: (152-143 with a minimum grade of C or 152-139 with a minimum grade of C) and 201-130 with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=149>)

152-168. JavaScript. (3 Credits)

This course is an introduction to programming fundamentals using JavaScript. JavaScript is a client-side scripting language used for creating dynamic web applications. Fundamentals covered include variables, decisions, functions, events, loops and arrays. Use these fundamentals by applying them to a range of programs that solve personal and business problems with hands-on exercises. Cascading style sheets (CSS), hypertext markup language (HTML) and the document object model (DOM) will also be discussed.

Prerequisites: 152-105 (may be taken concurrently) with a minimum grade of C or 201-110 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=168>)

152-169. JavaScript. (4 Credits)

This course is an introduction to programming fundamentals using JavaScript. JavaScript is a client-side scripting language used for creating dynamic web applications. Fundamentals covered include variables, decisions, functions, events, loops and arrays. Use these fundamentals by applying them to a range of programs that solve personal and business problems with hands-on exercises. Cascading style sheets (CSS), hypertext markup language (HTML) and the document object model (DOM) will also be discussed. (If you have never programmed before, please take 152-107 first.)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=169>)

152-170. IS Project. (4 Credits)

Work with a team to perform service learning and develop a software system using scrum. Learn to complete a project as a virtual team using industry-standard tools. Demonstrate mastery of program outcomes by participating in an integrated software project.

Prerequisites: 107-119 with a minimum grade of C and 156-101 with a minimum grade of C and (152-109 with a minimum grade of C or 156-110 with a minimum grade of C) and (152-179 with a minimum grade of C or 156-102 with a minimum grade of C) and (152-131 with a minimum grade of C or 152-135 with a minimum grade of C or 156-111 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=170>)

152-171. Advanced Web Services Develop. (3 Credits)

Today, nearly anything can be connected to the internet, including televisions, thermostats, garage doors and more. Learn to create RESTful web services using .NET core and MS SQL Server. Explore the basics of electricity and harness it to create DC circuits that utilize buttons, diodes, LEDs, resistors, jumpers, sensors and more. Ultimately, create a system that can communicate with your DC circuit using a microcontroller such as Raspberry Pi or Arduino. Then, connect this system to the Internet of Things using your .NET Core Web API.

Prerequisites: 152-179 with a minimum grade of C and (152-109 with a minimum grade of C or 152-197 with a minimum grade of C or 152-198 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=171>)

152-179. JavaScript 2. (4 Credits)

Learn to create interactive front-end web applications. Use modern JavaScript and front-end frameworks to create interface interactions, animations, controls and components for JavaScript applications. Use APIs to create data-driven content using Ajax and WebSockets.

Prerequisites: (152-168 with a minimum grade of C or 152-169 with a minimum grade of C) and (152-109 (may be taken concurrently) with a minimum grade of C or 152-129 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=179>)

152-197. Distributed Java. (3 Credits)

Learn to create RESTful Web Services and Micro Services using Java's Enterprise Edition. Create services using Spring 4.0, and get an introduction to JDBC, DAO and the legacy technologies: JSP and Servlets.

Prerequisites: (152-135 with a minimum grade of C or 152-131 with a minimum grade of C) and (152-115 with a minimum grade of C or 156-109 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=197>)

152-198. Distributed Java Programming. (4 Credits)

This course introduces advanced, distributed application development for both desktop and web-based systems, using the Java language and the Java Standard and Enterprise development kits. A distributed application is one where a program is divided into components and these components run on different computer systems. A web application is a common example of a distributed application. Advanced web development in Java is a key learning objective for this course. Students will learn to build enterprise class applications using server-side technologies including Java Servlets, JavaBeans, Enterprise Java Beans (EJB) and Web Services. In addition, advanced client-side programming using JavaScript and Cascading Style Sheets will be explored, including programming AJAX functionality. For distributed desktop development Java Remote Method Invocation will be explored. This course will also touch on popular open source frameworks such as Struts, Spring, Grails and Google Web Toolkit.

Prerequisites: (152-135 with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=198>)

152-401. Java Boot Camp. (3.2 Credits)

Java Boot camp is a customized training program to provide participants with a solid understanding of Java Technologies, Decision structures, Object Oriented Analysis and Design, and JUnit – Test Driven development.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=401>)

152-402. Web Development Boot Camp. (2.4 Credits)

Web Development boot camp is a customized training program to provide participants with a solid understanding of XML, MVC, Java Servlets, JSP, and JavaBeans.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=402>)

152-780. STEM Acad Assist - BIT. (1.05 Credits)

Course specific tutoring will be provided to students enrolled in Business Information Technology programming courses to assist them in successfully completing their coursework.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=780>)

152-781. STEM Acad Assist - WDM. (1.05 Credits)

Course specific tutoring will be provided to students enrolled in Web & Digital Media Design programming courses to assist them in successfully completing their coursework.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=152&num=781>)