

Course Descriptions

- **Exploration of Computer Science**

Exploration of Computer Science serves as the required foundational course within WMST's academic program in Technology. *Exploration of Computer Science* takes students beyond literacy, and uniquely seeks to attract students into Computer Science and IT fields early in the high school experience. *Exploration of Computer Science* provides students with the requisite knowledge and skills to demonstrate competence in various Computer Applications and Internet functions. It prepares learners to use computer software, hardware, networks and the Internet. Students are fully exposed to computer applications including Microsoft Word, Microsoft Excel, and Microsoft PowerPoint in regards to MS Certification. Students are also exposed to data modeling, programming, problem solving, and robotics. Students are expected to use the appropriate language of Technology, during oral and written assignments. All students in the *Exploration of Computer Science* are required to take the *Microsoft Office Specialist (MOS) Certification in Microsoft Word, Microsoft Excel, and Microsoft PowerPoint*.

- **Visual Basic**

VB.NET teaches students how to use Visual Studio.NET and Visual Basic.NET to build applications to run on the .NET platform, how to create Window Forms, new Projects, trap Window Forms Events, and how to access data using the new objects in ADO.NET including Data Reader, Data Adapter and data Set. Learners will also be introduced to Variables and Data Types, Classes and Objects, Class Library, Range Selection Control, Range Selection Code, Exception and Event Handling, Debugging of Applications, Inheritance and Interfaces, Handling Input/output tasks, and working with Strings and Data.

This course will provide students with an understanding of Visual Basic Programming Language and an opportunity to solve problems using a structured approach. Students will participate in various lab activities, training sessions, and assignments that will assist in forming and reinforcing the concepts of structured object-oriented programming.

- **Introduction to Python**

The *CodeHS Introduction to Computer Science in Python* course teaches the fundamentals of computer programming as well as some advanced features of the Python language. Students will develop an appreciation for how computers store and manipulate information by building simple console-based games. The course utilizes a blended classroom approach. The content is fully web-based, with students writing and running code in a browser. Students will learn the basics of programming, and then gradually harness the power of some of Python's more advanced features to make games and solve real-world problems.

- **JavaScript**

The *CodeHS JavaScript* curriculum teaches the foundations basic programming, with an emphasis on helping students develop logical thinking and problem solving skills. The curriculum introduces students to the basics of JavaScript, including variables, user input, control structures, functions with parameters and return values, and basic graphics, how to send messages to objects. Students solve problems by moving Karel the Dog around the grid.

- **Web Design**

The *CodeHS Web Design course* is a project-based course that teaches students how to build their own web pages. Students learn the languages HTML and CSS, and will create their own live homepages to serve as portfolios of their creations. The Web Design curriculum exposes students to how web pages are developed and viewed on the Internet, analyze and fix errors in existing websites, and allows students to create their very own multi page websites. Students learn the foundations of user interface design, rapid prototyping and user testing. The course utilizes a blended classroom approach. The content is fully web-based, with students writing HTML and CSS in a browser. The course is designed for complete beginners with no previous background in computer science. The course is highly visual, dynamic, and interactive, making it engaging for new students.

- **Information Technology in a Global Society**

The *IB Diploma Program Information Technology in a Global Society (ITGS)* course is the study and evaluation of the impacts of information technology (IT) on individuals and society. It explores the advantages and disadvantages of the access and use of digitized information at the local and global levels. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts. The course is delivered in an integrated approach examining the three core strands of the program, social and ethical significance, application in a specified scenarios, and IT systems.