

List of Computer Science Courses

Introduction to Computer Programming

*Visual Basic
HTML
Javascript*

Honors Computer Programming

C++

Honors Internet Technologies Programming

*ASP
PHP
MySQL*

Advanced Placement Computer Science

Java

Are you a high school student or will you soon be one?

Are you interested in a career in computers?

Are you interested in computer programming?

Are you looking for a challenge?

Do you enjoy problem solving?

Do you want have a head start with your college computer programming classes?

If you answered “yes” to most of these questions, then the Computer Science Courses at Heritage are for you!



Heritage High School

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Computer Science Courses at Heritage High School
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Computer Science Courses



*Part of the Engineering and Technology Magnet Program,
Mr. Dewey Ray, Director*

Heritage High School

- Award Winning
- Challenging
- One Step Ahead!

About the Courses

Introduction to Computer Programming

Visual Basic, HTML, Javascript
Catalog MA 5100

Prerequisites: Alg I or concurrent Geom

- Introduces programming in a Windows object-oriented environment using Visual Basic.
- Covers fundamental concepts of programming
- Draws from many advanced mathematical concepts such as solving systems of equations, standard deviation, conic sections, and three-dimensional cartesian and polar graphing.
- Includes a 9 week sequence covering HTML and Javascript.

Honors Computer Programming in C++

Catalog MA 5200, weighted 0.5

Prerequisites: Intro to Comp Prog and appropriate recommendation

- An advanced course providing a solid foundation for all future programming.
- Object-oriented.
- Language-independent concepts.
- End-of-year topics include graphics, encryption/decryption, image file formats, e-mail attachment formats (base 64 and uuencode), credit card validation, data compression, and more.

Honors Internet Technologies Programming

ASP, PHP, MySQL

Catalog MA 5320, weighted 0.5

Prerequisites: Previous or concurrent H Comp Prog in C++ and appropriate recommendation

- Exclusive pilot course offered only at Heritage!
- Students develop and maintain a server-side scripted, database-driven website (such as search engines, online library catalogs, online banking, and online shopping websites).
- Uses ASP with Access and PHP with MySQL on an Apache Server.

Advanced Placement Computer Science in Java

Catalog MA 5300, weighted 1.0

Prerequisites: Algebra-Trig or H Comp Prog in C++ and appropriate recommendation

- College Board curriculum for computer science
- Content is language independent.
- All students take the Advanced Placement Computer Science Exam in May.
- Students passing the course and receiving an acceptable score on the exam may receive college credit and/or advanced standing in college.

About the Teacher

All courses are taught by Mr. Charles F. Monroe, who has taught high school mathematics and computer programming courses in Newport News Public Schools since 1980. He has designed educational and administrative software for the school system and was selected by WHRO and the Consortium for Interactive Instruction as the 2004 High School Technology Teacher of the Year.

Web address: <http://apcsteacher.com>

Student Feedback

"I was ahead of the other students in my programming class." ~ Will S., UVA

"I already knew what the professor was teaching while other students were trying to understand it." ~ Robert L., Va Tech

"I still have the notes from programming class and use them often in college." ~ Makea B., Norfolk State U.

Helping with the university website: Jeremy R., Illinois Institute of Technology; Allen M., Rochester Institute of Technology, New York

Contest Winnings

Students at Heritage are proud to have won many 1st, 2nd, and 3rd Place awards in these annual contests:



The Heritage Computer Challenge

The Newport News Computer Challenge

The Great Computer Challenge (sponsored by WHRO and the Consortium for Interactive Instruction)

Colleges and Careers

Colleges & Universities where Heritage Computer Science students attend: Virginia Tech, University of Virginia, Old Dominion University, James Madison University, Norfolk State University, Hampton University, Christopher Newport University, Illinois Institute of Technology, Rochester Institute of Technology (NY), and many more.

Sample Careers: Software Engineer, Internet Programmer, Operations Research Analyst, Computer Scientist, Apple Campus Representative, Marketing Database Developer and Administrator, Information Analyst, Video Game Designer, and many more.