



COMPU**Scholar**, Inc.

Computer programming courses for kids and teens!

Proudly featuring **KidCoder™** and **TeenCoder™**
computer science curriculum for middle and high school students

CompuScholar, Inc. Whitepaper

Updated April, 2015

In this document you will find:

- A discussion of the chosen programming languages and technology
- The advantages of a turn-key teaching system
- Partnership and support information
- Company background and expertise

For further discussion, please contact:

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Thank you for spending a few minutes with the CompuScholar whitepaper! We are excited to bring our computer science expertise and teaching system to your students and teachers. This document will give you some additional background on the course technology, system advantages, and our classroom support.

Programming Languages and Technology

Each CompuScholar course uses an industry-standard programming language and toolset in high demand by the programming industry.

Course	Language	Tools
TeenCoder: Windows Programming (Computer Science I)	C#	Visual C# Express
TeenCoder: Game Programming (Game Programming and Design)	C#, XNA	Visual C# Express, XNA Game Studio
TeenCoder: Java Programming (Computer Science I, Computer Science II, AP Computer Science A)	Java	JDK, Eclipse
TeenCoder: Android Programming (Smartphone App Development)	Java	JDK, Eclipse, Android SDK, Android Development Tools (ADT)
KidCoder: Game Programming with Visual Basic (Introduction to Programming and Game Design)	Visual Basic.NET	Visual Basic Express
KidCoder: Web Design (Introduction to Web Design)	HTML/CSS	Text editors and Komodo Edit

We believe in preparing students for a computer science career or fun hobby using the same tools and languages used by software engineering professionals.



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Course Descriptions

CompuScholar offers multiple year-long course tracks, and each allows students to begin in the first semester with no prior programming knowledge. There are no prerequisites between the independent course tracks.

In **TeenCoder: Windows Programming**, students will learn the C# language using the free Visual C# Express development environment. Beginning students can quickly create graphical programs and respond to user input. The course also covers classic computer science concepts including data management, flow control, object-oriented programming, sorting, and recursion. This class can be taken as a fast-paced single semester or over a full school year at a more relaxed pace.

In **TeenCoder: Game Programming**, students will pick up where the first-semester Windows Programming course ends. The XNA Game Studio will be added to the student's existing C# development environment to provide a powerful framework for writing Windows and Xbox 360 games. Students will learn animation, sound effects, collision detection, artificial intelligence, game physics, multiplayer support, and more! They will write C# code to accomplish these tasks, and not merely drag and drop pre-built widgets around in a limited gaming interface.

The **TeenCoder: Java Programming** course uses the Java language, which can be run on multiple platforms. The course material can be delivered in several forms, including:

- As a relaxed, one-year introduction to computer science (“Abridged”)
- As a full computer science II / AP Computer Science A prep class
- As the first part of a full-year Android programming class



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The **KidCoder: Web Design** course teaches HTML5, CSS, and JavaScript skills. Students will build professional-looking web pages right on their computer, with no expensive software or complex server environments. This course is fun for multiple grades in middle through high school.

The **KidCoder: Game Programming with Visual Basic** course is a one-year combination of our popular introductory Visual Basic programming course and an introductory game design course using those same Visual Basic skills. This course is suitable for middle schools or high school students looking for an easy computer science entry point.

Instructional Videos and ESL Students

All courses contain integrated instructional videos for every lesson. Students can watch “screencast” demonstrations of a programmer accomplishing tasks within the development environment. They will hear narrated explanations for lesson concepts using animated examples and a fun, student-centric style. This presentation is a great help to ESL students or anyone who learns better through audio-visual presentation.

TeenCoder™: Windows Programming Chapter 4 - Lesson 1

To use your own list of data items, you can create an **enumeration**.

```
enum FavoriteFood  
{  
    MEXICAN,  
    CHINESE,  
    THAI,  
    BBQ  
}
```

FavoriteFood myFood = FavoriteFood.BBQ;

The video features a cartoon chef character holding a spatula and a plate of food, standing next to a whiteboard displaying the code. The video player interface at the bottom shows a progress bar and navigation controls.



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Advantages of a Learning Management System (LMS)

For many years, curriculum was delivered by printed textbook, leaving the teacher to manage all other aspects of the course. That physical textbook can be converted to an electronic “e-book”, but again no extra help is delivered to the classroom. How are quizzes and tests generated and administered? How are assessment and project grades tracked? Who manages student project files? How can students seamlessly switch between home and school computers, maintaining their project files and work? How can multi-media content effectively be integrated into the learning experience?

An online Learning Management System (LMS) answers all these questions and more! CompuScholar’s online teaching system will:

- Deliver integrated full-color instructional text, streaming multi-media instructional videos, activity documents, teacher’s lesson guides, and activity solutions to any computer with a high-speed Internet connection.
- Automatically administer, score, and track lesson quizzes and chapter tests.
- Manage an electronic grade-book to track all student grades, including teacher-assigned project grades.
- Allow students to move project files between home and classroom in their own private file-drop areas.
- Allow students to submit project files to the teacher when an assignment is complete.

Using CompuScholar’s integrated system allows your teacher to focus on teaching and not course logistics!



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Technical Support

Our partnership with your schools does not stop after purchase. Our expert staff is available to answer your teacher's questions before and during a school year. Both new teachers and experienced computers science instructors may want to ask questions such as:

- How do I resolve a specific coding problem?
- Can you clarify a specific conceptual topic?
- What is the meaning of a particular compile-time or run-time error?
- What are industry-standard practices or solutions for a particular topic?

All curriculum material is developed by expert CompuScholar staff members with many years of experience in the software industry. Teacher questions are quickly routed to the lesson authors or experts best suited to answer. We will work with you to resolve any issues that may arise in your classroom.

About CompuScholar, Inc.

Our company was founded by software engineers with a passion for quality computer programming. We encourage students of all ages to learn best practices and modern technical skills.

CompuScholar is led by Chris Yust, a 17-year computer science veteran and author of eight computer programming textbooks for children. Chris has a M.S. in Electrical Engineering and ran a professional consulting company for over a decade before founding CompuScholar, Inc.