




# Loch Raven High School Computer Science

**Why Computer Science?** Every 21st century student should have the opportunity to learn computer science. The basics of computer science help nurture creativity and problem-solving skills, and prepare students for a future in any field or career.

Course	Description
<p><b>Foundations of Computer Science</b></p> 	<p>Foundations of Computer Science is an introductory computer science course. Mapped to CTSA standards, the course takes a wide lens on computer science by covering topics such as problem solving, programming, physical computing, user centered design, and data, while inspiring students as they build their own websites, apps, animations, games, and physical computing systems. (Source: <a href="http://Code.org">Code.org</a>)</p>
<p><b>AP Computer Science Principles</b></p> 	<p>AP Computer Science Principles introduces students to the breadth of the field of computer science. In this course, students will learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They will incorporate abstraction into programs and use data to discover new knowledge. Students will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical. It is important to note that the AP Computer Science Principles course does not have a designated programming language. Teachers have the flexibility to choose a programming language(s) that is most appropriate for their students to use in the classroom. (Source: <a href="#">AP Course Description</a>)</p>
<p><b>AP Computer Science A</b></p> 	<p>AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. (Source: <a href="#">AP Course Description</a>)</p>
<p><b>Honors Linux Essentials (12th Grade)</b></p> <p><b>Note: This class is offered through e-learning, not LRHS.</b></p>	<p>As one of the most successful open source collaborations, Linux has evolved into the most reliable operating system on the planet. It's used for embedded systems to virtually all supercomputers for a good reason. Nearly every IT job requires some Linux knowledge. Students use the online curriculum at <a href="http://Netacad.com">Netacad.com</a> which provides course information and lab components.</p>

- Both Foundations of Computer Science and AP Computer Science Principles fulfill the Technology Education graduation requirement. Completing all four courses can earn a completer for your transcript.