

# Programming & Software Development Science, Technology, Engineering & Math

R.L. Turner High School

Business & Industry or STEM Endorsement



This four year plan can be used as an example to help plan your high school career.

Subject	9th Grade	10th Grade	11th Grade	12th Grade
Language Arts	English	English	English	English
Math	Math	Math	Math	Math
Science	Science	Science	Science	Science
Social Studies	Social Studies	Social Studies	Social Studies	Social Studies
<b>CTE Courses</b>	Computer Science 1 (1 Credit)	AP Computer Science Principles (1 Credit)	AP Computer Science A (1 Credit)	Practicum in STEM (2 Credits)
Additional Elective				
Additional Elective				
Additional Elective				

<p>Additional Graduation Requirements</p> <ul style="list-style-type: none"> <li>• Foreign Language (2 Credits)</li> <li>• Physical Education (1 Credit)</li> <li>• Fine Arts (1 Credit)</li> </ul>	<p>Possible Industry Based Certifications in Computer Science</p> <ul style="list-style-type: none"> <li>• Oracle Certified Associate JAVA SE 8 Programmer</li> <li>• Oracle Certified Database Associate</li> <li>• Microsoft Technology Associate, Intro to Programming using Python, HTML or CSS</li> <li>• Microsoft Technology Associate, Intro to Programming using Java or Java Script</li> </ul>
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Occupations	Median Wage	Annual Openings	% Growth
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developers, Applications	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run

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## Recommended Course Sequence

### Computer Science 1

Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students will learn to become good digital citizens by practicing integrity and respect throughout the Computer Science I course. Students will gain an understanding of the principles of computer science through the study of technology operations, systems, and concepts.



### AP Computer Science Principles

In this course, Develops beginning skills and concepts associated with programming methodology, programming languages, data types, data structures, algorithms and applications of computing. The Principles course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world with a unique focus on creative problem solving and real-world applications.



### Computer Science A

In this course, Develops beginning skills and concepts associated with programming methodology, programming languages, data types, data structures, algorithms and applications of computing. The Principles course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world with a unique focus on creative problem solving and real-world applications.



### Practicum in Science, Technology, Engineering & Math

Practicum in STEM is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.