What is the Computer Science Academy (CSA)?

- Courses focus on learning computer science concepts through inquiry and projects.
- Themes and practices include the creative nature of computing, problem-solving using technology as a tool, and seeing the relevance and impact of computer science.
- Students in CSA take their Computer Science class and their English class together with the same students. The teachers work to build projects and skills across the curriculum – together we form a small learning community.
- College and career skills are built into the courses to prepare students for higher education and future works as computing professionals.

Why join CSA?

Why computer science?

- Computational thinking is important across ALL subjects, not just computer science.
- More than 50 percent of all math and science jobs are for computer scientists.
- Computer science jobs are the highest-paying jobs for new graduates.
- Computing jobs are growing 3 times faster than the number of computer science graduates.
- CSA field trips to local universities, tech companies, game companies, and hackerspaces.
- Guest speakers from the tech industry to talk about various subfields within computer science.

“From phones to cars to medicine, technology touches every part of our lives. If you can create technology, you can change the world.”

— Susan Wojcicki

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**Sample CSA Student Schedule (required CSA courses highlighted)**

<table>
<thead>
<tr>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1</td>
<td>English 2 (CSA)</td>
<td>American Literature (CSA)</td>
<td>English/European Literature (CSA)</td>
</tr>
<tr>
<td>Algebra 1</td>
<td>Geometry</td>
<td>Algebra 2</td>
<td>Pre-Calculus or AP Calculus</td>
</tr>
<tr>
<td>Biology</td>
<td>Chemistry</td>
<td>Physics</td>
<td>AP Chemistry or AP Physics</td>
</tr>
<tr>
<td>College/Career &amp; Health Ed</td>
<td>Modern World</td>
<td>US History</td>
<td>Democracy &amp; Economics</td>
</tr>
<tr>
<td>PE</td>
<td>Spanish 1</td>
<td>Spanish 2</td>
<td>PE or Spanish 3</td>
</tr>
</tbody>
</table>

**Exploring Computer Science (10th Grade)**
- Computers and the Internet
- Societal impacts of computing
- Algorithms and abstraction
- Connections between Math and Computer Science
- Programming
- Models of Intelligent Behavior
- Web page design and development
- Data and Information
- Electronics/Robotics

**Computer Science Principles (11th Grade)**
- Fundamental computer programming concepts and skills
- Computer programming from practical perspective
- AppInventor & Mobile App Design
- Python programming language
- Hardware and Software Abstraction
- Design Cycle
- Creative Computing
- Problem-solving, problem analysis, and algorithm design
- Analysis of Data, Algorithms, and the Internet
- Global Impacts of Computing
- Professional norms of the software development industry
- Career opportunities in programming

**Advanced Placement Computer Science A (12th Grade)**
- Java Programming Language
- Object-Oriented Program Design
- Program Implementation
- Program Analysis
- Standard Data Structures
- Standard Algorithms
- Computing in Context