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.

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**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

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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>
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