



# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: **Cybersecurity**      Endorsement: **Business and Industry**

The Cybersecurity program of study focuses on occupational and educational opportunities associated with planning, implementing, upgrading, or monitoring security measures for the protection of computer networks and information. This program of study includes responding to computer security breaches and viruses and administering network security measures.



## Cybersecurity Course Sequence

Level	Course	Prerequisites   Corequisites
Level 1	<b>Foundations of Cybersecurity</b> 1 credit, 1 class period <i>Class is at The MILE</i>	<b>Prerequisites:</b> None
	<b>Internetworking Tech I</b> 1 credit, 1 class period <i>Class is at The MILE</i>	<b>Prerequisites:</b> Foundations of Cybersecurity
Level 2	<b>Computer Science I</b> 1 credit, 1 class period <i>MHHS Only</i>	<b>Prerequisites:</b> Algebra I, Foundations of Cybersecurity
	<b>Internetworking Tech II</b> 1 credit, 1 class period <i>Class is at The MILE</i>	<b>Prerequisites:</b> Internetworking Technologies I
Level 3	<b>AP Computer Science A</b> 1 credit, 1 class period <i>MHHS Only</i>	<b>Prerequisites:</b> Computer Science I
	<b>Cybersecurity Capstone</b> 1 credit, 1 class period <i>Class is at The MILE</i>	<b>Prerequisites:</b> Internetworking Technologies II
Level 4	<b>Industry Based Certifications</b>	<ul style="list-style-type: none"> <li>• CompTIA A+ Certification</li> <li>• CompTIA Network+</li> <li>• CompTIA Security+</li> </ul>

### Postsecondary Opportunities

#### Associate Degrees

- Computer and Information Systems Security
- Computer Programming

#### Bachelor's Degrees

- Computer Science
- Computer Software Engineering

#### Master's, Doctoral, and Professional Degrees

- Computer and Information Systems Security/Auditing/Information Assurance
- Computer Software Engineering

#### Additional Stackable IBCs/License

- Certified Ethical Hacker (CEH)

### Aligned Occupations

#### Computer User Support Specialists

Median Wage: \$51,411  
Annual Openings: 5,757  
10-Year Growth: 21%

#### Software Developers

Median Wage: \$111,705  
Annual Openings: 15,324  
10-Year Growth: 36%

#### Information Security Analysts

Median Wage: \$110,268  
Annual Openings: 1,719  
10-Year Growth: 49%

**To earn the Cybersecurity Pathway and Business & Industry Endorsement, students must complete at least 3 classes for 4 or more credits.**

# Cyber Security

## BUSINESS & INDUSTRY ENDORSEMENT



An example of a four-year plan for a student entering 9<sup>th</sup> grade to complete the Cyber Security Program of Study.

Subject	9th	10th	11th	12th
Language Arts	English 1	English 2	English 3	Advanced English
Mathematics	Algebra 1	Geometry	3 <sup>rd</sup> Math	4 <sup>th</sup> Math
Science	Biology or IPC	Biology or Chemistry	3 <sup>rd</sup> Science	4 <sup>th</sup> Science
Social Studies	World Geography	World History	US History	Govt./Econ.
Required CTE courses	<b>Foundations of Cybersecurity</b>	<b>Internetworking Tech I or Computer Science I</b>	<b>Internetworking Tech II or AP Comp. Science A</b>	<b>Cybersecurity Capstone</b>
Elective	Physical Education	Fine Arts	Elective	Elective
Elective	Foreign Language	Foreign Language	Elective	Elective

Industry Based Certifications
<ul style="list-style-type: none"> <li>• CompTIA A+ Certification</li> <li>• CompTIA Network+</li> <li>• CompTIA Security+</li> </ul>

Related CTE Elective Courses
<ul style="list-style-type: none"> <li>• Business Management</li> <li>• Entrepreneurship I and II</li> <li>• Global Business</li> <li>• Law Enforcement I and II</li> </ul>

Program of Study Planning
<ul style="list-style-type: none"> <li>• To complete any Program of Study, a student must complete 3 or more courses for a total of 4 or more credits.</li> <li>• A student may change their Program of Study at the end of their 9<sup>th</sup> grade year but must remain in their newly chosen pathway for the remainder of high school if they wish to complete it.</li> <li>• Students are encouraged to pursue other passions in their academics with the understanding that courses and/or commitments in other programs may conflict with completing their Program of Study.</li> </ul>