



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: Programming and Software Development

The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and 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 includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.



Secondary Courses for High School Credit

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| Level 1 | <ul style="list-style-type: none"> Fundamentals of Computer Science |
| Level 2 | <ul style="list-style-type: none"> Computer Science I |
| Level 3 | <ul style="list-style-type: none"> Computer Science II |
| Level 4 | <ul style="list-style-type: none"> Advanced Placement (AP) Computer Science Principles Advanced Placement (AP) Computer Science A Practicum in Information Technology |

Aligned Advanced Academic Courses

AP

AP Calculus AB
AP Statistics

Dual Credit

Dual credit offerings will vary by local education agency.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern at a local IT company to develop skills in programming and coding
- Shadow a software developer to learn how they create and improve software to support efficient processes at their company

Expanded Learning Opportunities

- Program and create a game
- Participate in TSA

Aligned Industry-Based Certifications

- Information Technology Specialist: Java



Example Postsecondary Opportunities

Apprenticeships

- Computer Programmer Apprenticeship

Associate Degrees

- Computer Programming
- Web Page, Digital/Multimedia and Information Resources Design

Bachelor's Degrees

- Data Science
- Computer Engineering

Master's, Doctoral, and Professional Degrees

- Management Science
- Computer Software Engineering

Additional Stackable IBCs/License

- AWS Certified Developer Associate



Example Aligned Occupations

Computer User Support Specialists

Median Wage: \$51,823
Annual Openings: 6,387
10-Year Growth: 21%

Software Developers

Median Wage: \$127,000
Annual Openings: 12,350
10-Year Growth: 36%

Computer Programmers

Median Wage: \$99,177
Annual Openings: 657
10-Year Growth: 4%

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Successful completion of the Programming and Software Development program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.

