

# 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.



## Programming and Software Development (WHS Only) Statewide Program of Study



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

Level 1	T365	Fundamentals of Computer Science (1/YL)
Level 2	T347R	Computer Science I (1/YL)
Level 3	T348A	AP Computer Science Math w/LOTE (2/YL)
Level 4	T349R T362	Computer Science III (1/YL) Or Practicum in Information Technology

### 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 SkillsUSA or TSA

### Aligned Industry-Based Certifications

- Certified Entry-Level Python Programmer (PCEP)
- Information Technology Specialist: Java



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



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

#### Software Developers

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

#### Computer Programmers

Median Wage: \$87,997  
Annual Openings: 1,176  
10-Year Growth: 4%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.

For more information visit: <https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>