



# 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.

## CFISD Program of Study: Programming and Software Development

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.

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.



### Recommended Course Sequence (credits)(A=advanced)

Students wanting an endorsement in this area must select three (3) or more courses totaling four (4) or more credits with at least one being advanced.

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| <b>Grade 9</b> | <ul style="list-style-type: none"> <li>Principles of Information Technology (1 – middle school only)</li> <li>AP Computer Science Principles (1-LOTE)</li> <li>OR Computer Science I K (1-LOTE)</li> </ul> |
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| <b>Grade 10</b> | <ul style="list-style-type: none"> <li>Computer Science I K (1-LOTE)</li> <li>OR Computer Science II K (1-LOTE) (A)</li> </ul> |
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| <b>Grade 11</b> | <ul style="list-style-type: none"> <li>Computer Science II K (1-LOTE) (A)</li> <li>OR Computer Science III K (1-LOTE) (A)</li> </ul> |
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| <b>Grade 12</b> | <ul style="list-style-type: none"> <li>Computer Science III K (1-LOTE) (A)</li> <li>OR Computer Science IV K (1) (A)</li> </ul> |
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### Aligned Industry-Based Certifications Offered in CFISD

(course) (CCMR=impacts “career ready” status as outlined by the TEA Accountability System for College, Career or Military Readiness)

- Information Technology Specialist: Java (Computer Science III K (CCMR)
- Oracle Certified Associate Java SE 8 Programmer (Computer Science III K) (CCMR)
- Potential college credit via AP exams (AP Computer Science Principles, Computer Science II K)

### 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



- Receive training on industry-standard material, software & equipment.
- Enhance your resume by earning recognized industry-based certifications.
- Get a jump-start by taking advantage of core curriculum dual credit, transferable to 2-yr and 4-yr degrees.

**ALL AT A FRACTION OF THE COST!**



### 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

Data Source: Texas Wages, Texas Workforce Commission. rev 3/8/2024

#### 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%



For more information on this and other CTE programs of study offered in CFISD, visit <https://www.cfisd.net/academics/career-technical-education/programs-of-study>

What's next? For more information on related programs available to continue your studies at Lone Star College, visit <https://www.lonestar.edu/programs-of-study>

