

Information Technology Career Cluster

Revised–June 2024



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.



Endorsement: *Business & Industry or STEM*

Statewide Program of Study: *Programming and Software Development (Computer Science)*

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

9th Grade

- ☐ Fundamentals of Computer Science (Level 1) **OR**
- ☐ Principles of Information Technology (Level 1)

10th Grade

- ☐ Computer Science I (Level 2) **OR**
- ☐ AP Computer Science Principles (Level 2) **OR**
- ☐ Computer Science I DC (Program Fund. I & II) (Level 2)
- ☐ Elective: Entrepreneurship I (Level 2)

11th Grade

- ☐ Computer Science II (Level 3) **OR**
- ☐ AP Computer Science A (Level 3) **OR**
- ☐ Computer Science II DC (Program Fund. I & II) (Level 3)

12th Grade

- ☐ Computer Science III (Level 4) **OR**
- ☐ Computer Science III DC (Computer & Program Fund. III) (Level 2)

A CTE Completer is a student who completes three or more CTE courses for four or more credits including one Level 3 or 4 (advanced level) CTE course within a program of study will fulfill the requirements of a Business and Industry Endorsement.

Aligned Industry-Based Certifications

- CompTIA A+ Certification



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

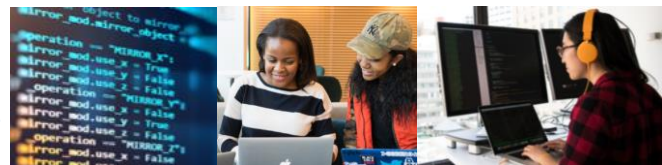
- Program and create a game
- Participate in SkillsUSA or TSA

NAViance ACCESS

All Killeen ISD students (7th – 12th graders) should login to their Naviance account through Clever.

Log into Naviance by clicking the Clever logo or link and use the College SuperMatch Tool to find colleges offering degree plans in this field.

<https://clever.com/in/killeenisd>



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: Texas Wages, 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>

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Endorsement: **Business & Industry** or **STEM** Statewide

Program of Study: **Programming and Software Development (Computer Science)**

Course Information



IT IS IN THE BEST INTEREST OF THE STUDENT TO TAKE ALL COURSES LISTED IN EACH GRADE

Level 1
9th Grade

Course	Prerequisites Corequisites	Career Clusters
Principles of Information Technology* 13027200 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Fundamentals of Computer Science* 03580140 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2
10th Grade

Course	Prerequisites Corequisites	Career Clusters
Computer Science I* 03580200 (1 credit)	Prerequisites: Algebra I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
AP Computer Science Principles* A3580300 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	
Entrepreneurship I* 13011101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites: None	
Computer Science I DC (Program Fund. I & II)* 03580200 (.5 credits each) COSC 1301 and COSC 1315	Prerequisites: Algebra I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 3
11th Grade

Course	Prerequisites Corequisites	Career Clusters
Computer Science II 03580300 (1 credit)	Prerequisites: Algebra I and either Computer Science I or Fundamentals of Computer Science Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
AP Computer Science A* A3580110 (1 math credit) A3580120 (1 LOTE credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$ Recommended Corequisites: None	
Computer Science II DC (Program Fund. I & II) 03580300 (.5 credits each) COSC 1336 and COSC 1337	Prerequisites: Algebra I and either Computer Science I DC or Fundamentals of Computer Science Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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Course	Prerequisites Corequisites	Career Clusters
Computer Science III 03580350 (1 credit)	Prerequisites: Computer Science II, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science Standard Level or IB Computer Science Higher Level Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Computer Science III DC (Program Fund. III)* 03580350 (.5 credits each) COSC 2325 and COCS 2336	Prerequisites: Computer Science II DC, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science Standard Level or IB Computer Science Higher Level Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

* Indicates course is included in more than one program of study.

Armed Forces Career Information

- Cyber Network Defender – U.S. Army
- Cyber Operations Specialist – U.S. Army
- Computer Systems Programmer – U.S Air Force
- Cyber Systems Operator – Army National Guard
- Computer Systems Programmer – Marines
- Cyber Warfare Engineer - Navy
- This is not a comprehensive list

Local Armed Forces Recruiter Contact Information:

- Air Force – (254) 247-8992
- Army – (254) 690-8554
- Army National Guard – (903) 262-6355
- Marines – (254) 690-2626
- Navy – (254) 690-2096

See your school counselor to connect with a military recruiter for career counseling and to take the ASVAB in high school.

Killeen ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Rhea Bell, Title IX Coordinator, 902 N. 10th St., Killeen, TX 76541, 254-336-2822, Rhea.bell@killeenisd.org. Further nondiscrimination information can be found at [Notification of Nondiscrimination in Career and Technical Education Programs](#).