



Information Technology

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.



Program of Study: Cybersecurity

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.

Courses

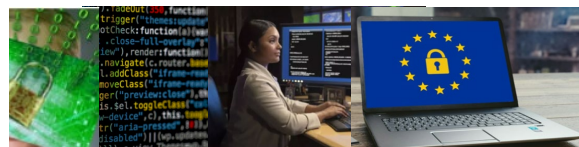
9 th Grade	Fundamentals of Computer Science
10 th Grade	AP Computer Science Principles
11 th Grade	Networking
12 th Grade	Practicum in STEM - Cybersecurity

Work-Based Learning/Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Earn industry certification Work on industry projects
Expanded Learning Opportunities	Texas Technology Students Association (TSA)

Aligned Industry-Based Certifications

- CompTIA Network+



Example 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)

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%

Information Security Analysts

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

Successful completion of this program of study will fulfill requirements of the STEM Endorsement if the math and science requirements are met or the Business & Industry endorsement.

Approved Statewide Program of Study. C. E. King High School – 2024-25



Cybersecurity Course Information

Level 1

Fundamentals of Computer Science

03580140

Grade: 9-10

Credit: 1

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.

Level 2

AP Computer Science Principles

A3580300

Grade: 9-12

Credit: 1

GPA: 6.0

Recommended Prerequisite: Algebra I *Advanced Placement Test offered*

Computer science is everywhere, from smartphones and video games to music, medicine, and much more. AP Computer Science Principles (AP CSP) can help students understand how computing and technology influence the world around them. Learn how to creatively address real-world issues while using the same tools and processes that artists, writers, computer scientists, and engineers use to bring ideas to life. If you have big ideas and an interest in using technology and creativity to realize those ideas and solve problems, computer science is for you. AP Computer Science Principles can lead to 49 college majors and 130 career areas.

AP Computer Science Principles explores the fundamentals of computing, including problem solving, working with data, understanding the internet, cybersecurity and programming. It will broaden students' understanding of computer science for use in a diversity of majors and careers.

Students must have knowledge of basic algebra, experience in problem solving and competence with written communication.

Level 3

Networking

13027400

Grade: 10-12

Credit: 1

In Networking, students will develop knowledge of the concepts and skills related to data networking technologies and practices in order to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

Industry Based Certification: CompTIA Network+

Level 4

Practicum in Science, Technology, Engineering, and Math - Cybersecurity

13037400

Grade: 12

Credit: 2

Prerequisite: Algebra I and Geometry; two IT Career Cluster Courses

This practicum in Science, Technology, Engineering, and Mathematics is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Although periods should be adhered to in order to provide students with experience, completion of skill sets may be demonstrated throughout the practicum; thus, units do not have to be delivered.

Industry Based Certification: CompTIA Security+