

Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Cybersecurity Statewide Program of Study



The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.

Secondary Courses for High School Credit

Level 1

- Principles of Information Technology

Level 2

- Computer Maintenance/Lab (Personal Computer Hardware ITSC1325/Intro to PC Operating Systems ITSC1305)*
- Business Information Management I (BCIS1305*/POFI2301)

Level 3

- Networking/Lab (Network+ & Fundamentals of Networking Technologies: ITNW1358/ITNW1325)*

Level 4

- Practicum in Information Technology (Fundamentals of Info Security & Info Tech Security: ITSY1300/ITSY1342)*

*TVCC Networking and Information Security Certificate Requirement

Postsecondary Opportunities

Associates Degrees

- System Networking, and LAN/WAN Management
- Information Technology
- Computer and Information Sciences, General
- Computer Science

Bachelor's Degrees

- Computer Systems Networking and Telecommunications
- Computer Systems Networking and Telecommunications
- Computer and Information Sciences, General
- Computer Science

Master's, Doctoral, and Professional Degrees

- Computer Systems Analysis/Analyst
- Information Technology
- Computer Information Sciences, General
- Computer Science

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
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| <ul style="list-style-type: none"> Join TSA Job shadow a computer system analyst or information security analyst | <ul style="list-style-type: none"> Obtain a cybersecurity IBC |
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Industry-Based Certifications

- CompTIA A+ Certification
- CompTIA IT Fundamentals



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer System Analysts	\$87,568	5,937	29%

Successful completion of the Agribusiness program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

Cybersecurity Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principals of Information Technology	1302700 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Computer Maintenance Computer Maintenance (Personal Computer Hardware ITSC1325/Intro to PC Operating Systems ITSC1305)*	13027310 (2 credit)	None	Algebra I
Business Information Management I (BCIS1305*/POFI2301)	13011400 (1 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Networking/Lab (Network+ & Fundamentals of Networking Technologies: ITNW1358/ ITNW1325)*	13027400 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Information Technology (Fundamentals of Info Security & Info Tech Security: ITSY1300/ITSY1342)*	13028000 (2 credits)	Minimum of two high school Information Technology courses	None

*TVCC Networking and Information Security Certificate OSA Requirement

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
<https://tea.texas.gov/cte>

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Further nondiscrimination information can be found at
[Notification of Nondiscrimination in Career and Technical Education Programs.](#)