



Principles of Information Technology  
 Fundamentals of Computer Science  
 Foundations of Cybersecurity

**Level 1**

Internetworking Technologies I  
 Computer Science I  
 AP Computer Science Principles  
 Computer Maintenance/Lab

**Level 2**

Engineering Applications of Computer Science Principles  
 Networking/Lab  
 Digital Forensics  
 Internetworking Technologies II  
 AP Computer Science A-Math  
 AP Computer Science B-LOTE  
 IB Computer Science Standard Level  
 Discrete Mathematics for Computer Science

**Level 3**

Cybersecurity Capstone  
 Practicum in Information Technology  
 Practicum in STEM  
 Project-Based Research  
 Independent Study in Technology Applications  
 Independent Study in Evolving/Emerging Technologies  
 IB Computer Science Higher Level- Math  
 IB Computer Science Higher Level-LOTE

**Level 4**

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Oracle Certified Database Associate	Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
Cisco Certified Entry Networking Technician (CCENT)	SAP Certified Technology Professional System Security Architect	Computer and Information Sciences, General	Computer and Information Sciences, General	Computer and Information Sciences, General
CompTIA A+, Network+, Security+, and IT Fundamentals	Cisco Certified Network Professional Security Certification	Computer Science	Computer Science	Computer Science

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%

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

**WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES**

Exploration Activities:	Work Based Learning Activities:
Join TSA Job Shadow a computer system analyst or information security analyst.	Obtain an industry based certification.

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.



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.

Successful completion of the Cybersecurity program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - March 2022



# COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Information Technology	13027200 (1 credit)	None	9-10
Fundamentals of Computer Science	03580140 (1 credit)	None	9-12
Foundations of Cybersecurity	03580850 (1 credit)	None	9-12
Internetworking Technologies I	N1302803 (1 credit)	None	10-12
Computer Science I	03580200 (1 credit)	PREQ: Algebra I	9-12
Computer Maintenance/Lab	13027300 (1 credit) 13027310 (2 credits)	PREQ: Principles of Information Technology	10-12
Engineering Applications of Computer Science Principles	N1303772 (1 credit)	None	10-12
Networking/Lab	13027400 (1 credit) 13027410 (2 credits)	None	10-12
Digital Forensics	03580360 (1 credit)	None	9-12
Internetworking Technologies II	N1302804 (1 credit)	PREQ: Internetworking Technologies I	11-12
AP Computer Science Principles	A3580300 (1 credit)	None	9-12
Discrete Mathematics for Computer Science	03580370 (1 credit)	PREQ: Algebra II	11-12
IB Computer Science Standard Level	I3580200 (2 credits)	None	9-12
AP Computer Science-MATH	A3580110 (1 credit)	None	9-12
AP Computer Science- LOTE	A3580120 (1 credit)	None	9-12

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Cybersecurity Capstone	03580855 (1 credit)	None	11-12
Practicum of Information Technology	13028000 (2 credit) 13028005 (3 credit) 13028010 (2 credit) 13028015 (3 credit)	PREQ: Two high school Information Technology courses	12
Practicum in Science, Technology, Engineering and Mathematics	13037400 (2 credits) 13037405 (3 credits) 13037410 (2 credits) 13037415 (3 credits)	PREQ: Algebra I and Geometry	12
Project-Based Research	12701500 (1 credit)	None	11-12
Independent Study in Technology Applications	03580900 (1 credit)	None	9-12
Independent Study in Evolving/Emerging Technologies	03581500 (1 credit)	None	9-12
IB Computer Science Higher Level-MATH	I3580310 (1 credit)	None	9-12
IB Computer Science Higher Level- LOTE	I3580320 (1 credit)	None	9-12

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

(District) offers career and technical education programs in (types of programs offered). Admission to these programs is based on (admission standards). It is the policy of (District) not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended. It is the policy of (District) not to discriminate on the basis of race, color, national origin, sex, handicap, or age in its employment practices as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975, as amended; and Section 504 of the Rehabilitation Act of 1973, as amended. (District) will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs. For information about your rights or grievance procedures, contact the Title IX Coordinator at (physical address of Coordinator) (email address of Title IX Coordinator), (phone number of Title IX Coordinator), and the Section 504 Coordinator at (physical address of Coordinator), (email address of Section 504 Coordinator), (phone number of Section 504 Coordinator)