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| Level 1 | Principles of Information Technology Fundamentals of Computer Science Foundations of Cybersecurity |
| Level 2 | Internetworking Technologies I Computer Science I AP Computer Science Principles Computer Maintenance/Lab |
| Level 3 | 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 4 | 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 |

| 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% |

| 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. |

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.

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 - July 2020



COURSE INFORMATION

| COURSE NAME | SERVICE ID | PREREQUISITS (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 (.5 to 1 credit) | None | 9-12 |
| Internetworking Technologies II | N1302804 (1 credit) | PREQ: Internetworking Technologies I | 11-12 |
| AP Computer Science Principles | A3580300 | None | 9-12 |
| Discrete Mathematics for Computer Science | 03580370 (1 credit) | PREQ: Algebra II | 11-12 |
| IB Computer Science Standard Level | I3580320 (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 | PREREQUISITS (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:

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<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)