



Level 1

Level 2

AP Computer Science Principles
Computer Science I
Game Programming and Design

Level 3

Introduction to C# Programming Applications
AP Computer Science A, MATH
AP Computer Science A, LOTE
Mobile Application Development
Computer Science II
IB Computer Science Standard Level
Discrete Mathematics for Computer Science
Advanced Cloud Computing

Level 4

IB Computer Science Higher Level, LOTE
IB Computer Science Higher Level, MATH
Practicum in Information Technology
Practicum in Audio/Video Production
Practicum in Science, Technology, Engineering, and Mathematics
Practicum in Entrepreneurship (TBD)
Career Preparation I
Independent Study in Technology Applications
Independent Study in Evolving/Emerging Technologies

| HIGH SCHOOL/INDUSTRY CERTIFICATION | CERTIFICATE/LICENSE* | ASSOCIATE'S DEGREE | BACHELOR'S DEGREE | MASTER'S/DOCTORAL PROFESSIONAL DEGREE |
|---|--|---|---|---------------------------------------|
| Oracle Certified Association JAVA SE 8 Programmer | Certified Computing Professional | Computer Programming/ Programmer Genera | Management Information Systems, General | Computer Software Engineer |
| Oracle Certified Database Associate | Cloud Technology Associate Certification | Computer Software Engineer | Computer Software Engineer | Computer Science |
| Microsoft Technology Associate, Introduction to Programming Using Python, HTML or CSS | AEM 6 Developer | Computer Science | Computer Science | Information Science/ Studies |
| Microsoft Technology Associate, Introduction to Programming Using Java or Java Script | Certified Software Analyst | Certified Software Analyst | Information Science/ Studies | |

| Occupations | Median Wage | Annual Openings | % Growth |
|--------------------------------------|-------------|-----------------|----------|
| Software Developer, Systems Software | \$103,334 | 2,985 | 25% |
| Software Developers, Applications | \$104,499 | 6,311 | 30% |
| Computer Programmers | \$79,893 | 1,454 | 9% |

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 Participate in coding club at school | Obtain an industry-based certification. |

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing 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 may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.



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 Programming and Software Development program of study will fulfill requirements of the Business and Industry and STEM endorsement if the math and science requirements are met. Revised - July 2020



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