SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Programming and Software Development

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	

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.

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%

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

TEA
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