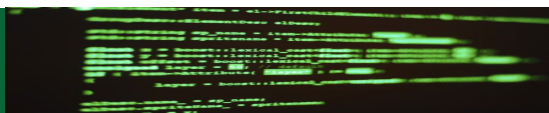


Science, Technology, Engineering, and Mathematics Career Cluster

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.

Programming and Software Development Statewide Program of Study



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.

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Secondary Courses for High School Credit

Level 1

- Fundamentals of Computer Science [1 Credit]

Level 2

- AP Computer Science Principles [1 Credit]

Level 3

- AP Computer Science A, MATH [1 Credit] **(Advanced Course)**
- AP Computer Science A, LOTE [1 Credit] **(Advanced Course)**

Level 4

- Career Preparation I [3 Credits] **(Advanced Course)**

Postsecondary Opportunities

Associates Degrees

- Computer Programming/Programmer General
- Computer Software Engineer
- Computer Science
- Certified Software Analyst

Bachelor's Degrees

- Management Information Systems, General
- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Master's, Doctoral, and Professional Degrees

- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Aligned Occupations

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

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Join TSA
- Participate in coding club at school

Work-Based Learning Activities

- Obtain an industry-based certification

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Industry-Based Certifications

- CodeHS Python Level 1 Certification
- Certified Entry-Level Python Programmer (PCEP)
- Information Technology Specialist: Java



Programming and Software Development Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Fundamentals of Computer Science	03580140 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
AP Computer Science Principles	A3580300 (1 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
AP Computer Science A, MATH, LOTE	A3580110 (1 credit) A3580120 (1 credit)	None	None

Level 4

Course Name	Service ID	PREREQUISITES	COREQUISITES
Career Preparation I	12701305 (3 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER,

PLEASE CONTACT:

Your Junior High or High School Counselor

Sharyland ISD does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. For inquiries regarding the nondiscrimination policies, contact our Title IX Coordinator at 1200 N. Shary Road, Mission, TX 78572, or by email at deborahgarza@sharylandisd.org and our Section 504 Coordinator at 1200 N. Shary Road, Mission, TX 78572, by email at azucenagarza@sharylandisd.org or by calling (956) 580-5200.