



# Science, Technology, Engineering & Math

## Programming & Software Development



### PROGRAMMING & SOFTWARE DEV COURSE SEQUENCE



#### EXPLORATION

Principles of Information Technology  
Fundamentals of Computer Science



#### INVESTIGATION

Computer Science I



#### PREPARATION

Computer Science Applications



#### APPLICATION

Practicum in Information Technology

Certification  
Opportunity

CompTIA  
IT Fundamentals+

#### INDUSTRY CERTIFICATION & HIGHER EDUCATION

Certificate/ Licenses	Associate's Degree	Bachelor's Degree	Master's/ Doctoral Degree
Certified Computing Professional	Computer Programming	Information Systems, General	Computer Software Engineer
Cloud Technology Associate Certification	Computer Software Engineer		
AEM 6 Developer	Computer Science		
Certified Software Analyst		Information Science/ Studies	

#### CAREER OUTLOOK

Occupation	Median Wage	Project Openings	Projected 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%



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### TISD COURSE INFORMATION

COURSE NAME	PREREQUISITES	GRADES	TISD COURSE CODE	SERVICE ID and COURSE CREDIT
Principles of Information Technology	None	8	V13072	13027200 (1 credit)
Fundamentals of Computer Science	None	9-12	V12705	103580140 (1 credit)
Computer Science I	Fundamentals of Computer Science and Algebra 1	10-12	V12710	103580200 (1 credit)
Computer Science Applications*	Computer Science 1, Algebra 1, and Geometry	11-12	V12712	13037400 (2 credits)
Practicum in Information Technology**	Each of the above courses (Principles of IT optional)	12	V13074	13028000 (2 credit)

\*Computer Science Applications = Practicum in STEM offered as a 1 period course

\*\*Travel and costs are associated with this course

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.

### WORK BASED LEARNING AND CAREER EXPLORATION/EXTENDED LEARNING

CAREER EXPLORATION	WORK BASED LEARNING
CyberPatriot	Job Shadow a software developer or computer programmer

Successful completion of the Programming & Software program of study will fulfill requirements of the BUSINESS & INDUSTRY or STEM endorsement if the math and science requirements are met.

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