



STEM

Programming and Software Development

**WILDCAT
WORKFORCE**
INSPIRE • ENGAGE • PREPARE

PROGRAMMING AND SOFTWARE DEVELOPMENT COURSE PATHWAY



EXPLORATION

Principles of Information Technology (optional, 8th grade)
Fundamentals of Computer Science



INVESTIGATION

Computer Science I



PREPARATION

Computer Science Applications



APPLICATION

Practicum in Information Technology
Career Preparation I (optional)

EXPANDED LEARNING OPPORTUNITIES

**Career & Technical
Student Organization**

SkillsUSA
CyberPatriot

Work-based Learning

Local computer or
information security company

INDUSTRY BASED CERTIFICATION OPPORTUNITIES

CodeHS Python Level 1
CompTIA ITF+

DUAL CREDIT OPPORTUNITIES

Computer Science I
Computer Science Applications
Practicum in Information Technology

Discuss additional dual credit opportunities
with your counselor

The Programming and Software Development program of study explores the occupations and educational 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.

POSTSECONDARY OPPORTUNITIES

ASSOCIATE'S DEGREE

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

BACHELOR'S DEGREE

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

MASTER'S, DOCTORAL, & PROFESSIONAL DEGREES

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

CONNECTED OCCUPATIONS

Occupation	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%

Successful completion of the Programming and Software Development program of study fulfills requirements of a Business and Industry endorsement or a STEM endorsement if the math and science requirements are met.

Temple ISD Course Details

COURSE NAME	PREREQUISITES	GRADES	TISD COURSE CODE	SERVICE ID and COURSE CREDIT
Principles of Information Technology (8th grade)	None	8	V13072	13027200 (1 credit)
Fundamentals of Computer Science	None	9-12	V12705 ⁺	03580140 (1 credit)
Computer Science I	Fundamentals of Computer Science and Algebra 1	10-12	V12710 ⁺ V12610 (DC)	03580200 (1 credit)
Computer Science Applications*	Computer Science 1, Algebra 1, and Geometry	11-12	V12712 ⁺ V12612 (DC)	13037400 (2 credits)
Practicum in Information Technology**	Each of the above courses (Principles of IT optional)	12	V13074 V13174 (DC)	13028000 (2 credit)
Career Preparation I (optional)	Computer Science Applications*	12	V12410	12701300 (2 credits)
Extended Career Preparation I (optional)	Computer Science Applications*	12	V12713	12701305 (3 credits)

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

**Travel and costs are associated with this course

⁺Minimum courses required to meet CTE Completer status

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