

Information Technology Career Cluster



The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

Statewide Program of Study: Programming and Software Development

The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and 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 includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

Secondary Courses for High School Credit



- Level 1**
 - Principles of Information Technology (8th grade course only)
- Level 2**
 - Computer Science I
 - AP Computer Science Principles
- Level 3**
 - AP Computer Science A
- Level 4**
 - Computer Science III
 - Practicum in Science, Technology, Engineering, and Mathematics
 - Practicum in Entrepreneurship



AP/Dual Credit

AP Calculus AB
AP Statistics

OnRamps College Algebra
OnRamps Pre-Calculus

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards concentrator/completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern at a local IT company to develop skills in programming and coding
- Shadow a software developer to learn how they create and improve software to support efficient processes at their company

Expanded Learning Opportunities

- Program and create a game
- Participate in SkillsUSA or TSA

Aligned Industry-Based Certifications

- Certified Entry-Level Python Programmer (PCEP)
- CodeHS Python Level 1 Certification



Example Postsecondary Opportunities

Apprenticeships

- Computer Programmer Apprenticeship

Associate Degrees

- Computer Programming
- Web Page, Digital/Multimedia and Information Resources Design

Bachelor's Degrees

- Data Science
- Computer Engineering

Master's, Doctoral, and Professional Degrees

- Management Science
- Computer Software Engineering

Additional Stackable IBCs/License

- AWS Certified Developer Associate



Example Aligned Occupations

Computer User Support Specialists

Median Wage: \$51,411
Annual Openings: 5,757
10-Year Growth: 21%

Software Developers

Median Wage: \$111,705
Annual Openings: 15,324
10-Year Growth: 36%

Computer Programmers

Median Wage: \$87,997
Annual Openings: 1,176
10-Year Growth: 4%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



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Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Information Technology* 13027200 (1 credit) * (8 th grade only)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Computer Science I* 03580200 (1 credit)	Prerequisites: Algebra I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
AP Computer Science Principles* A3580300 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science A* A3580110 (1 math credit) A3580120 (1 LOTE credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$ Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Computer Science III 03580350 (1 credit)	Prerequisites: Computer Science II, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science Standard Level or IB Computer Science Higher Level Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Science, Technology, Engineering, and Mathematics* First Time Taken: 13037400 (2 credits) Second Time Taken: 13037410 (2 credits)	Prerequisites: Algebra I and Geometry Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	