



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.



Weslaco ISD

Secondary Courses for High School Credit

9th	<ul style="list-style-type: none"> • Computer Science I Honors
10th	<ul style="list-style-type: none"> • AP Computer Science Principles or • Computer Science II or • Fundamentals of Computer Science
11th	<ul style="list-style-type: none"> • AP Computer Science A (Math & LOTE) or • Computer Science III
12th	<ul style="list-style-type: none"> • Computer Science II Honors or • AP Computer Science Principles or • Fundamentals of Computer Science

Aligned Advanced Academic Courses

AP or IB	<ul style="list-style-type: none"> AP Calculus AB AP Statistics IB Mathematics Applications and Interpretation SL
Dual Credit	Dual credit offerings will vary by local education agency.

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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Program and create a game • Participate in SkillsUSA or TSA

Weslaco ISD Aligned Industry-Based Certifications

- Apple App Development with Swift
- C++ Certified Associate Programmer
- **Certified Entry-Level Python Programmer (PCEP)**
- Certified Professional Programmer
- Certified User: Programmer
- CodeHS Python Level 1 Certification
- CompTIA IT Fundamentals+
- CompTIA Linux+
- **Information Technology Specialist: Java**
- Information Technology Specialist: JavaScript
- Microsoft Azure AI Fundamentals
- Microsoft Azure Data Fundamentals
- Oracle Certified Associate Java SE 8 Programmer
- Oracle Database SQL Certified Associate
- CompTIA A+ Certification
- CompTIA Server+

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



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>



Information Technology Career Cluster

Statewide Program of Study: Programming and Software Development

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Information Technology* 13027200 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Fundamentals of Computer Science* 03580140 (1 credit)	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	
Game Programming and Design 03580380 (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	
Entrepreneurship I* 13011101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Introduction to C# Programming Applications N1302812 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: At least one credit in a Level 2 or higher course in programming or software development Recommended Corequisites: None	
Computer Science II 03580300 (1 credit)	Prerequisites: Algebra I and either Computer Science I or Fundamentals of Computer Science Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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* Indicates course is included in more than one program of study.

For additional information on the **Information Technology** career cluster, contact cte@tea.texas.gov or visit <https://tea.texas.gov/cte>





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Level 3

Course	Prerequisites Corequisites	Career Clusters
Advanced Cloud Computing* N1302813 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: At least one credit in a Level 2 or higher course in computer science, programming, software development, or networking systems Recommended Corequisites: None	
Discrete Mathematics for Computer Science* 03580370 (1 credit)	Prerequisites: Algebra II Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Mobile Application Development 03580390 (1 credit)	Prerequisites: Algebra I Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	
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	
IB Computer Science Standard Level* I3580200 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Computer Science I, Algebra II Recommended Corequisites: None	
IB Computer Science Higher Level* I3580310 (1 math credit) I3580320 (1 LOTE credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Computer Science I, Algebra II 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	

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Weslaco ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Juanita D. Ybarra Rodriguez, Assistant Superintendent for Human Resources, 319 West Fourth Street Weslaco, TX 78596, (956) 969-6619, Jdybarrarodriguez@wisd.us. Further nondiscrimination information can be found at [Notification of Nondiscrimination in Career and Technical Education Programs](#)



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Level 4

Course	Prerequisites Corequisites	Career Clusters
Independent Study in Technology Applications* First Time Taken: 03580900 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: A minimum of one credit from the courses in the Information Technology career cluster Recommended Corequisites: None	
Independent Study in Evolving/Emerging Technologies* First Time Taken: 03581500 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: A minimum of one credit from the courses in the Information Technology career cluster Recommended Corequisites: None	
Career and Technical Education Project-Based Capstone* First Time Taken: 12701101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Audio/Video Production First Time Taken: 13008700 (2 credits) Second Time Taken: 13008710 (2 credits)	Prerequisites: Audio/Video Production II and Audio/Video Production II Lab Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Audio/Video Production + Extended Practicum in Audio/Video Production First Time Taken: 13008705 (3 credits) Second Time Taken: 13008715 (3 credits)	Prerequisites: Audio/Video Production II and Audio/Video Production II Lab Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Information Technology* First Time Taken: 13028000 (2 credits) Second Time Taken: 13028010 (2 credits)	Prerequisites: A minimum of two high school information technology (IT) courses Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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Course	Prerequisites Corequisites	Career Clusters
Practicum in Information Technology + Extended Practicum in Information Technology* First Time Taken: 13028005 (3 credits) Second Time Taken: 13028015 (3 credits)	Prerequisites: A minimum of two high school information technology (IT) courses 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	
Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics* First Time Taken: 13037405 (3 credits) Second Time Taken: 13037415 (3 credits)	Prerequisites: Algebra I and Geometry Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Entrepreneurship* First Time Taken: 13011111 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a CTE program of study Recommended Corequisites: None	
Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* First Time Taken: 13011121 (3 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a CTE program of study Recommended Corequisites: None	

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Career Preparation for Programs of Study* First Time Taken: 12701121 (2 credits)	Prerequisites: At least one Level 2 or higher CTE course Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Career Preparation for Programs of Study + Extended Career Preparation* First Time Taken: 12701141 (3 credits)	Prerequisites: At least one Level 2 or higher CTE course Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Scientific Research and Design 13037200 (1 credit)	Prerequisites: Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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