

# 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: Web Development

The Web Development program of study focuses on occupational and educational opportunities associated with designing, creating, and modifying websites. It includes integration of websites with other computer applications and conversion of written, graphic, audio, and video components to compatible web formats using software designed to facilitate the creation of web and multimedia content.



### Secondary Courses for High School Credit

- Level 1**
  - Principles of Information Technology
  - Fundamentals of Computer Science
  - Digital Media
  - Web Communications

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- Level 2**
  - Computer Science I
  - Foundations of User Experience (UX)
  - Entrepreneurship I

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- Level 3**
  - Web Design
  - Web Game Development
  - Advanced User Experience Design

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- Level 4**
  - Independent Study in Technology Applications
  - Independent Study in Evolving/Emerging Technologies
  - Career and Technical Education Project-Based Capstone
  - Practicum in Information Technology
  - Practicum in Information Technology + Extended Practicum in Information Technology
  - Practicum in Entrepreneurship
  - Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship
  - Career Preparation for Programs of Study
  - Career Preparation for Programs of Study + Extended Career Preparation

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Computer Science A AP Computer Science Principles IB Computer Science SL IB Computer Science HL
<b>Dual Credit</b>	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.

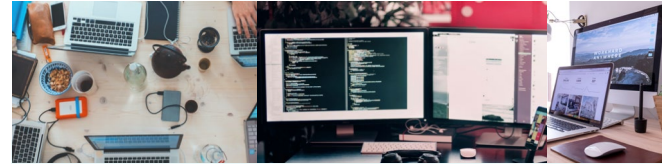
### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>• Intern at a nonprofit or small business to support developing or updating their website and digital media</li> <li>• Shadow a web designer to learn about how they developed their digital design skills and what factors they consider when developing a website</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>• Create a website</li> <li>• Participate in SkillsUSA or TSA</li> </ul>

### Aligned Industry-Based Certifications

- Certified Web and Mobile App Developer Apprentice
- Certified Web Animator Associate
- CodeHS Python Level I Certification
- CodeHS Web Design Level I Certification
- Information Technology Specialist: HTML and CSS
- Information Technology Specialist: HTML5 Application Development
- Information Technology Specialist: JavaScript
- Microsoft Azure Data Fundamentals
- Oracle Certified Associate Java SE 8 Programmer
- Web Design - Job Ready

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



### Example Postsecondary Opportunities

#### Associate Degrees

- Web Page, Digital/Multimedia and Information Resources Design
- Web/Multimedia Management



#### Bachelor's Degrees

- Computer and Information Sciences
- Information Technology

#### Master's, Doctoral, and Professional Degrees

- Computer and Information Sciences
- Computer Software Engineering

#### Additional Stackable IBCs/License

- HTML Developer



### Example Aligned Occupations

#### Web Developers

Median Wage: \$77,712  
Annual Openings: 1,170  
10-Year Growth: 24%

#### Software Developers

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

#### Computer and Information Systems Managers

Median Wage: \$155,593  
Annual Openings: 3,064  
10-Year Growth: 26%

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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## Statewide Program of Study: Web Development

### Course Information

Level 1

Course	Prerequisites   Corequisites	Career Clusters
<b>Principles of Information Technology*</b> 13027200 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Fundamentals of Computer Science*</b> 03580140 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Digital Media</b> 13027800 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Web Communications</b> 03580810 (0.5 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

Level 2

Course	Prerequisites   Corequisites	Career Clusters
<b>Computer Science I*</b> 03580200 (1 credit)	<b>Prerequisites:</b> Algebra I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Foundations of User Experience (UX)</b> N1302809 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Entrepreneurship I*</b> 13011101 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Business, Marketing, and Finance <b>Recommended Corequisites:</b> None	 

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Web Design</b> 03580820 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> 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](mailto:cte@tea.texas.gov) or visit <https://tea.texas.gov/cte>



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## Statewide Program of Study: Web Development

### Course Information

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Web Game Development</b> 03580830 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Advanced User Experience Design</b> N1302814 (1 credit)	<b>Prerequisites:</b> Foundations of User Experience <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Independent Study in Technology Applications*</b> First Time Taken 03580900 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> A minimum of one credit from the courses in the Information Technology career cluster <b>Recommended Corequisites:</b> None	
<b>Independent Study in Evolving/Emerging Technologies*</b> First Time Taken 03581500 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> A minimum of one credit from the courses in the Information Technology career cluster <b>Recommended Corequisites:</b> None	
<b>Career and Technical Education Project-Based Capstone*</b> First Time Taken: 12701101 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Practicum in Information Technology*</b> First Time Taken: 13028000 (2 credits) Second Time Taken: 13028010 (2 credits)	<b>Prerequisites:</b> A minimum of two high school information technology (IT) courses <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

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## Statewide Program of Study: Web Development

### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Practicum in Information Technology + Extended Practicum in Information Technology*</b> First Time Taken: 13028005 (3 credits) Second Time Taken: 13028015 (3 credits)	<b>Prerequisites:</b> A minimum of two high school information technology (IT) courses <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Practicum in Entrepreneurship*</b> First Time Taken: 13011111 (2 credits)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a CTE program of study <b>Recommended Corequisites:</b> None	
<b>Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*</b> First Time Taken: 13011121 (3 credits)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a CTE program of study <b>Recommended Corequisites:</b> None	
<b>Career Preparation for Programs of Study*</b> First Time Taken: 12701121 (2 credits)	<b>Prerequisites:</b> At least one Level 2 or higher CTE course <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Career Preparation for Programs of Study + Extended Career Preparation*</b> First Time Taken: 12701141 (3 credits)	<b>Prerequisites:</b> At least one Level 2 or higher CTE course <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

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