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: Information Technology Support and Services

The Information Technology Support and Services program of study focuses on occupational and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study includes analyzing user requirements, automating or improving existing systems, and reviewing computer system capabilities. It also includes research, design, and testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

Secondary Courses for High School Credit

Level 1
- Principles of Information Technology
- Fundamentals of Computer Science

Level 2
- Internetworking Technologies I (Cisco)
- Geographic Information Systems
- Raster Based Geographic Information Systems
- Computer Maintenance
- Computer Maintenance + Computer Maintenance Lab
- Entrepreneurship I

Level 3
- Internetworking Technologies II (Cisco)
- Spatial Technology and Remote Sensing
- Advanced Cloud Computing
- IT Troubleshooting

Level 4
- Independent Study in Technology Applications
- Independent Study in Evolving/Emerging Technologies
- Career and Technical Education Project-Based Capstone
- Computer Technician Practicum
- Computer Technician Practicum + Extended Computer Technician Practicum
- 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

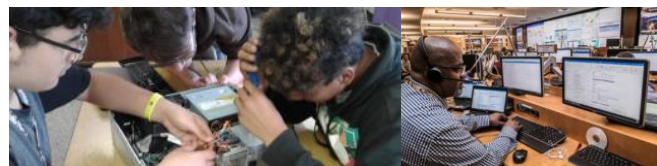|	
AP or IB	AP Computer Science A AP Computer Science Principles IB Computer Science SL IB Computer Science HL
Dual Credit	Dual credit offerings will vary by local education agency.

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	• Intern at a local IT company to develop skills in computer system maintenance and setting up computer equipment • Shadow a database administrator or computer software or hardware engineer to learn about their day-to-day responsibilities
Expanded Learning Opportunities	• Participate in SkillsUSA or TSA • Subscribe to industry journals

Aligned Industry-Based Certifications

- ArcGIS Desktop Associate 19-001
- Business Information Processing
- Cloud Essentials+
- CompTIA A+ Certification
- CompTIA IT Fundamentals+
- Computer Repair Technology - Job Ready
- Google IT Support Professional Certificate
- Microsoft 365 Fundamentals
- Microsoft Security, Compliance, and Identity Fundamentals
- CompTIA Network+
- CompTIA Server+

Example Postsecondary Opportunities

Apprenticeships
- Coding Apprenticeship

Associate Degrees
- Computer Science
- Network and System Administration

Bachelor's Degrees
- Computer and Information Systems Security/Auditing/Information Assurance
- Computer Engineering

Master's, Doctoral, and Professional Degrees
- Information Science/Studies
- Electrical and Electronics Engineering

Example Aligned Occupations

Computer User Support Specialists
Median Wage: $51,411
Annual Openings: 5,757
10-Year Growth: 21%

Computer Network Support Specialists
Median Wage: $65,646
Annual Openings: 1,634
10-Year Growth: 19%

Computer Hardware Engineers
Median Wage: $119,662
Annual Openings: 377
10-Year Growth: 14%

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 Support and Services

Successful completion of the Information Technology Support and Services program of study will fulfill requirements of the Business and Industry endorsement.

TEA — Texas Education Agency

Information Technology Career Cluster

Statewide Program of Study: Information Technology Support and Services

Course Information

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	

Course	Prerequisites | Corequisites	Career Clusters
Internetworking Technologies I (Cisco)* N1302803 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	
Geographic Information Systems N1302805 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Art, Audio/Video Technology, Principles of Information Technology, or Principles of Technology **Recommended Corequisites:** None	
Raster Based Geographic Information Systems N1302806 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Geographic Information Systems **Recommended Corequisites:** None	
Computer Maintenance* 13027300 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Information Technology **Recommended Corequisites:** None	
Computer Maintenance + Computer Maintenance Lab* 13027310 (2 credits)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Information **Recommended Corequisites:** None	
Entrepreneurship I* 13011101 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Business, Marketing, and Finance **Recommended Corequisites:** None	

* 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

Information Technology Career Cluster

Statewide Program of Study: Information Technology Support and Services

Course Information

Level 3

Course	Prerequisites | Corequisites	Career Clusters
Internetworking Technologies II (Cisco)* N1302804 (1 credit)	**Prerequisites:** Internetworking Technologies I **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	
Spatial Technology and Remote Sensing N1302807 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Geographic Information Systems and Raster Based Geographic Information Systems **Recommended Corequisites:** None	
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	
IT Troubleshooting N1302815 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Information Technology and Computer Maintenance/Lab **Recommended Corequisites:** None	

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	

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Course Information

Level 4

Course	Prerequisites | Corequisites	Career Clusters
Career and Technical Education Project-Based Capstone* First Time Taken: 12701101 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	
Computer Technician Practicum First Time Taken: 13027500 (2 credits) Second Time Taken: 13027510 (2 credits)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Information Technology, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab **Recommended Corequisites:** None	
Computer Technician Practicum + Extended Computer Technician Practicum First Time Taken: 13027505 (3 credits) Second Time Taken: 13027515 (3 credits)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** Principles of Information Technology, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab **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	
Practicum in Information Technology + Extended Practicum in Information Technology* First Time Taken: 13028005 (3 credits) Second Time Taken: 13028015 (3 credits)	**Prerequisites:** Minimum of two high school information technology (IT) courses **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	

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Information Technology Support and Services

Course Information

Level 4

Course	Prerequisites | Corequisites	Career Clusters
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	
Career Preparation for Programs of Study* 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	

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Information Technology Support and Services