



**Local Implementation Considerations:**

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal accountability reporting.

Proposed Indicator: Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal accountability reporting.



## COURSES

Principles of Information Technology  
Geographic Information Systems

Computer Maintenance/Lab  
Raster Based GIS

Computer Technician Practicum  
Spatial Technology and Remote Sensing  
IT Troubleshooting (TBD)

Computer Technician Practicum (2nd time)  
Project-Based Research  
Practicum of Information Technology  
Practicum in Entrepreneurship (TBD)  
Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Technology Associate Windows Operating System Fundamentals	IBM Certified Specialist - InfoSphere Optim for Distributed Systems Fundamentals	Computer and Information Sciences, General		
ERSI ArcGIS Desktop Entry	IBM Certified Database Associate - DB2 11 Fundamentals for z/OS	Computer and Information Systems Security/Information Assurance		Computer Systems Analysis/ Analyst
CompTIA A+	HP ASE - ProLiant Server Solutions Integrator V2	Information Technology	Computer Engineering, General	
CompTIA IT Fundamentals +	Oracle Linux 6 Advanced System Administration	Computer Systems Networking and Telecommunications		Information Technology
Additional industry based certification information is available from the TEA CTE website				
For more information on postsecondary options for this program of study, visit TXCTE.org				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Database Administrator	\$83,075	1,063	19%
Information Technology - Computer Occupations, All Other	\$85,197	1,616	20%
Computer Hardware Engineer	\$111,738	343	24%
Computer System Analyst and Support	\$87,568	5,937	29%

## WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

### Exploration Activities:

Join TSA  
Job shadow a database administrator or computer hardware engineer

### Worked Based Learning Activities:

Obtain a Certification

The Information Technology Support and Services program of study explores the occupations and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study may also include analyzing user requirements and problems to automate or improve existing systems and review computer system capabilities. This program of study may also include exploration into the research, design, or testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.



The Information Technology (IT) Career Cluster® focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

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

Approved Statewide Program of Study - September 2019



# COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITE (PREQ) COREQUISITE (CREQ)	GRADE
Principles of Information Technology	13027200 (1 credit)	None	9-10
Geographic Information Systems	N1302805 (1 credit)	None	10-12
Computer Maintenance/Lab	13027300 (1 credit) 13027310 (2 credits)	None	10-12
Raster Based GIS	N1302806 (1 credit)	None	10-12
Computer Technician Practicum	13027500 (2 credits) 13027505 (3 credits)	None	10-12
Spatial Technology and Remote Sensing	N1302807 (1 credit)	None	10-12
IT Troubleshooting	TBD	TBD	TBD
Computer Technician Practicum (2nd time)	13027510 (2 credits) 13027515 (3 credits)	PREQ: Computer Technician Practicum	12
Project-Based Research	12701500 (1 credit)	None	11-12
Practicum in Information Technology	13028000 (2 credits) 13028005 (3 credits) 13028010 (2 credits) 13028015 (3 credits)	PREQ: A minimum of two high school information technology (IT) courses	12
Practicum in Entrepreneurship	TBD	TBD	TBD
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	11-12

**FOR ADDITIONAL INFORMATION ON THE THE INFORMATION TECHNOLOGY CAREER CLUSTER, PLEASE CONTACT:**

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<https://tea.texas.gov/cte>



## COURSES

### LEVEL 1

Computer Science I  
Principles of Information Technology  
Principles of Cloud Computing (TBD)

### LEVEL 2

Internetworking Technologies I  
Computer Maintenance/Lab  
AP Computer Science Principles  
Cloud Networking (TBD)

### LEVEL 3

Internetworking Technologies II  
Networking/Lab

### LEVEL 4

Practicum in Information Technology  
Practicum in Entrepreneurship (TBD)  
Project Based Research  
Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Business Practitioner	Computer and Information Sciences, General		
Oracle Certified Database Associate	Intelligence Planner Certification Program	Computer Systems Networking and Telecommunications		Information Technology
Cisco Certified Entry Networking Technician (CCENT)	Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/Information Assurance	
Associate of (ISC)2	Microsoft Networking Fundamentals	Network and System Administration/Administrator	Computer Engineering, General	

\*Includes Level 1 and Level II Certificates

For more information on postsecondary options for this program of study, visit [TXCTE.org](http://TXCTE.org).

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architects	\$111,633	1,082	23%
Computer Systems Analysts	\$87,568	5,937	29%
Computer Network Support Specialists	\$68,037	1,824	19%

## WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

### Exploration Activities:

Join TSA  
Job shadow a computer network architect or support specialist

### Work Based Learning Activities:

Earn an industry-based certification.

The Networking Systems program of study explores the occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study may also include exploration into analyzing science, engineering, and other data processing problems to implement and improve computer systems.



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Successful completion of the Networking Systems program of study will fulfill requirements of a Business and Industry Endorsement. Approved Statewide Program of Study - September 2019

# COURSE INFORMATION

COURSE NAME	SERVICE ID	PREQ: Prerequisite CREQ: Corequisite	GRADE
Computer Science I	03580200 (1 credit)	Algebra I	9-10
Principles of Information Technology	3027200 (1 credit)	None	9-10
Principles of Cloud Computing (TBD)	TBD	TBD	TBD
Internetworking Technologies I	N1302803 (1 credit)	None	10-12
Computer Maintenance/Lab	13027300 (1 credit) 13027310 (2 credits)	PREQ: Principles of Information Technology. CREQ: Computer Maintenance Lab	10-12
AP Computer Science Principles	A3580300 (1 credit)	Algebra I	9-12
Cloud Networking (TBD)	TBD	TBD	TBD
Internetworking Technologies II	N1302804 (1 credit)	PREQ: Internetworking Technologies I	10-12
Networking/Lab	13027400 (1 credit) 13027410 (2 credits)	RPREQ: Principles of Information Technology, Computer Maintenance, and Computer Maintenance Lab CREQ: Networking	12
Practicum in Information Technology	13028000 (2 credits) 13028005 (3 credits) 13028010 (2 credits) 13028015 (3 credits)	PREQ: Minimum of two high school information technology (IT) courses CREQ: Practicum in Information Technology	12
Practicum in Entrepreneurship (TBD)	TBD	TBD	TBD
Project Based Research	12701500 (1 credit)	None	11-12
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	11-12

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## COURSES

### LEVEL 1

Principles of Information Technology

### LEVEL 2

Computer Programming I  
Web Technologies

### LEVEL 3

Web Design  
Web Game Development

### LEVEL 4

Project Based Research  
Practicum in Information Technology  
Practicum in Entrepreneurship (TBD)  
Career Preparation

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	AEM 6 Developer	Computer Programming/Programmer, General	Web/Multimedia Management and Webmaster	Computational Science
WD Certified Web Design Certification	Certified Webmaster Professional	Computer Science		
Microsoft Technology Associate Introduction to Programming Certifications	Adobe Campaign Developer	Web Page, Digital/Multimedia and Information Resources Design		Information Science/ Studies
App Development with Swift Certification Level 1	IBM Certified Solution Developer - OpenSocial	Computer Systems Networking and Telecommunications		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit [TXCTE.org](http://TXCTE.org).

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architects	\$111,633	1,079	39%
Web Administrators, Computer Occupations	\$85,197	1,616	20%

## WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

### Exploration Activities:

Join TSA  
Participate in a coding or computer programming club  
Create a web page

### Work Based Learning Activities:

Get an Oracle or CISCO Certification

The Web Development program of study explores the occupations and educational opportunities associated with designing, creating, and modifying websites. This program of study may also explore integrating websites with other computer applications, and converting written, graphic, audio, and video components to compatible web formats by using software designed to facilitate the creation of web and multimedia content.



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Successful completion of the Web Development program of study will fulfill requirements of a Business and Industry Endorsement. Approved Statewide Program of Study September 2019

# COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITE (PREQ) COREQUISITE (CREQ)	GRADE
Principles of Information Technology	13027200 (1 credit)	PREQ: None	9-10
Computer Programming I	13027600 (1 Ccredit)	RPREQ: Principles of Information Technology and Algebra I	10-12
Web Technologies	13027900 (1 credit)	RPREQ: Principles of Information Technologies	10-12
Web Design	035880820 (1 credit)	None	9-12
Project Based Research	12701500 (1 credit)	None	11-12
Practicum in Information Technology	13028000 (2 credits) 13028005 (3 credits) 13028010 (2 credits) 13028015 (3 credits)	(PREQ): A minimum of two high school information technology (IT) courses	12
Practicum in Entrepreneurship	TBD	TBD	TBD
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	11-12

**FOR ADDITIONAL INFORMATION ON THE THE INFORMATION TECHNOLOGY CAREER CLUSTER, PLEASE CONTACT:**

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