

## SUGGESTED COURSE PATHWAY



LEVEL  
**1**

Computer Science I

LEVEL  
**2**

AP Computer Science Principles  
Principles of Information Technology

LEVEL  
**3**

Internetworking Technologies I (Cisco CCNA I & II)

LEVEL  
**4**

Career Preparation I and Extended Career Preparation  
Internetworking Technologies II (Cisco CCNA III & IV)

*Above courses are not tied to grade levels.*

## COURSE INFORMATION

COURSE NO.	COURSE NAME	GRADE	PREREQUISITES	CERTIFICATIONS
401001	Computer Science I	9 - 10	Algebra I	N/A
403701	AP Computer Science Principles	9 - 10	None	N/A
403401	Principles of Information Technology	9 - 12	None	Internet and Computing Core (IC3)
556601	Internetworking Technologies I (Cisco CCNA I & II)	11 - 12	Algebra II	N/A
553801	Career Preparation I and Extended Career Preparation	11 - 12	16 years of age	N/A
556651	Internetworking Technologies II (Cisco CCNA III & IV)	12	Internetworking Technologies I (Cisco CCNA I & II)	N/A

NETWORKING SYSTEMS

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.



The Information Technology 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.

Meets the requirements of the Business and Industry Endorsement.



# COURSE DESCRIPTIONS

## 401001 Computer Science I

FULL YEAR

Grades: 9 - 10

Prerequisite: Algebra I

Credit: 1.0



Computer Science I is an introduction to the automated processing of information, including computer programming. Students will apply their mathematical and logical reasoning to solve problems in the field of computer science. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will also explore various aspects of digital citizenship, including those affecting both users and programmers. The learning in this course equips students to read and write small programs using Java programming language in response to a given problem or scenario. Successful completion of this course will prepare students for a cohesive course sequence in computer science. No previous coding/programming experience is required.

## 403701 AP Computer Science Principles

FULL YEAR

Grades: 9 - 10

Prerequisite: None

Credit: 1.0



AP Computer Science Principles is an introduction to the complete field of computer science. Studies include exploring the technology's impact on society, analyzing and visualizing trends in data, and developing computational artifacts related to their interests. Students will broaden their understanding of computer science for use in a diversity of interests, majors and careers. Programming is only one component of this course and taught at an introductory level using JavaScript. No previous coding/programming experience is required. This course prepares students to take the Advanced Placement (AP) Computer Science Principles exam to possibly earn college credit.

## 403401 Principles of Information Technology

FULL YEAR

Grades: 9 - 12

Prerequisite: None

Credit: 1.0



Principles of Information Technology (PIT) develops computer literacy skills utilized in emerging technologies and the global marketplace. Students apply word processing, spreadsheet, database, presentation, and web publishing technologies using Microsoft Office and Google Tools. This course provides instruction and training necessary for the globally recognized Internet and Computing Core (IC3) certification.

## 556601 Internetworking Technologies I (Cisco CCNA I & II)

FULL YEAR

Grades: 11 - 12

Prerequisite: Algebra II

Credit: 1.0



This course teaches networking through the PISD Cisco Networking Academy Program and prepares students for industry standard certifications. Topics include LANs, the OSI model, addressing, and routing. Students may continue this training at any Cisco Academy. This is a Distinguished Level course (beginning with the graduating class of 2023).

# COURSE DESCRIPTIONS

## 553801 Career Preparation I and Extended Career Preparation

FULL YEAR

Grades: 11 - 12

Prerequisite: 16 years of age

Credit: 3.0



This course provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with paid business and industry employment experiences. Classroom experiences include: job acquisition, career progression, financial success, business/entrepreneurial applications, occupational safety and health and relevant news topics. Professional portfolios will be created with material supporting an educational/career plan for the future. Students will earn 3.0 credits for successful completion of this course which includes one class period per school day on campus and two class periods per school day allocated for early release for off campus work experience.

## 556651 Internetworking Technologies II (Cisco CCNA III & IV)

FULL YEAR

Grades: 12

Prerequisite: Internetworking Technologies I (Cisco CCNA I & II)

Credit: 1.0



This course teaches networking through the PISD Cisco Networking Academy Program and prepares students for industry standard certifications. Topics include WANs, routers, TCP/IP addressing, routing protocols, and network troubleshooting. This is a Distinguished Level course (beginning with the graduating class of 2023).

### POSTSECONDARY OPTIONS

CERTIFICATE/ LICENSE	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
AEM 6 Business Practitioner	Computer and Information Sciences, General		
Intelligence Planner Certification Program	Computer Systems Networking and Telecommunications		Information Technology
Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/ Information Assurance	
Microsoft Networking Fundamentals	Network and System Administration/ Administrator	Computer Engineering, General	

### WORKFORCE/CAREER OPTIONS

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%

Postsecondary, workforce, and career options data provided by Texas Education Agency (TEA).