

**Prerequisite: At least two credits of Information Technology**

**Recommended Grade Placement 12**

**2 CREDITS**

Research in IT is a project-based research course for students who have the ability to research a real-world technological problem. Students develop a project on a topic related to information technology career interests, use scientific methods of investigation to conduct in-depth research, are matched with a mentor from the business or professional community, apply information technology concepts, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge, skills, and technologies in a variety of settings.

**CAREER PREPARATION I**

Course # 07228902

**Recommended Grade Placement 11-12**

**2 CREDITS**

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

**Recommended Sequence of Courses (Prerequisites noted in course descriptions)**

**To complete the Program of Study, students must earn four credits in the Program of Study and one of the credits must be an Advanced Level course.**

<b>Entry Level Courses</b>	<b>Advanced Courses</b>
<b>Principles of Information Technology</b>	<b>Practicum of Information Technology</b>
<b>Computer Maintenance</b>	<b>Computer Technician Practicum</b>
	<b>Career Preparation I</b>

## **Networking Systems**

### ***Business and Industry Endorsement***



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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HIGH SCHOOL / INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S / DOCTORAL PROFESSIONAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Oracle Certified Associate Java SE 8	AEM 6 Business Practitioner	Computer and Information Sciences, General			Computer Network Architects	\$111,633	1,082	23%
Oracle Certified Database Associate	Intelligence Planner Certification Program	Computer Systems Networking and Telecommunications		Information Technology	Computer Systems Analysts	\$87,568	5,937	29%
Cisco Certified Entry Networking Technician (CCENT)	Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/ Information Assurance		Computer Network Support Specialists	\$68,037	1,824	19%
Associate of (ISC)2	Microsoft Networking Fundamentals	Network and System Administration/Administrator	Computer Engineering, General		<b>WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES</b>			
*Includes Level 1 and Level II Certificates					<b>Exploration Activities:</b>	<b>Work Based Learning Activities:</b>		
For more information on postsecondary options for this program of study, visit TXCTE.org.					Join TSA Job shadow a computer network architect or support specialist	Earn an industry-based certification.		

## Courses in this Program of Study

### PRINCIPLES OF INFORMATION TECHNOLOGY

Course # 07084500

**Recommended Grade Placement 9**

**1 CREDIT**

In this course, students will develop computer literacy skills to adapt to emerging technologies used in the global market place. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment.

### COMPUTER SCIENCE I

Course # 07222205

**Prerequisite: Algebra I**

**Recommended Grade Placement 9-10**

**1 CREDIT**

Students will access, analyze, and evaluate all types of information in ways that are computable in order to solve problems that range in scope from computing a speeding ticket to instructing a robot to dance, from designing interactive, intelligent fashion garments to creating a mobile app game. Students are exposed to the vast and diverse world of computer science, working collaboratively and individually on projects and learning a variety of programming languages, both graphical and text-based, to use in implementing their solutions. This is the first in the sequence of computer science courses offered for students in the computer science program of study, STEM endorsement. This is an advanced academic course and is weighted in the GPA. *This course receives weighted GPA credit. Check Appendix A for the weight.*

### COMPUTER MAINTENANCE

Course # 07224520

**Recommended Grade Placement 9-10**

**1 CREDIT**

Students acquire principles of computer maintenance, including electrical and electronic theory, computer hardware principles, and broad level components related to the installation, diagnosis, service, and repair of computer systems.

### AP COMPUTER SCIENCE PRINCIPLES

Course# 07222209

**Recommended Grade Placement 9-10**

**1 CREDIT**

In this course, students will learn the principles that underlie the science of computing and develop the thinking skills that

computer scientist use. Students will work on their own and as part of a team to creatively address real-world issues using the tools and processes of computation.

**NETWORKING**

Course # 07224620

**Recommended Prerequisite: Computer Maintenance**

**Recommended Grade Placement 11-12**

**1 CREDIT**

In Networking, students will develop knowledge of the concepts and skills related to data networking technologies and practices in order to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

**PRACTICUM INFORMATION TECHNOLOGY**

Course # 07222240

**Prerequisite: At least two credits of Information Technology**

**Recommended Grade Placement 12**

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**CAREER PREPARATION I**

Course # 07228902

**Recommended Grade Placement 11-12**

**2 CREDITS**

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<b>Computer Maintenance</b>	<b>Practicum of Information Technology</b>
<b>Computer Science I</b>	<b>Career Preparation I</b>
<b>AP Computer Science Principles</b>	