



# Network Systems

**Career Goal (O\*NET Code):** Computer Systems Engineer/Architect (15-1099), Computer Support Specialist (15-1041), Computer Operator (43-9011), Network Systems and Data Communications Analyst (15-1081), Computer Security Specialist (15-1071).

**Cluster Overview:** Information Technology careers encompass entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.

## SUGGESTED COURSEWORK

## EXTENDED LEARNING EXPERIENCES

<b>High School</b>	9th	<b>Core Courses</b>	English I Algebra I Biology	World Geography Languages other than English I Health/PE or Equivalent	<p><b>Curricular Experiences:</b> Business Professionals of America Future Business Leaders of America SkillsUSA Texas Technology Student Association</p> <p><b>Career Learning Experiences:</b> Career Preparation (Paid/Unpaid) Job Shadowing Internship</p>	<p><b>Extracurricular Experiences:</b> Academic Decathlon UIL Campus Service Organizations Computer Tutor</p> <p><b>Service Learning Experiences:</b> Boy Scouts of America Community Service Volunteer Girl Scouts of the USA</p>
		<b>Career-Related Electives</b>	Introduction to Information Technology or Business and Computer Information Systems I**			
	10th	<b>Core Courses</b>	English II Geometry Chemistry	World History Languages other than English II Technology Applications		
		<b>Career-Related Electives</b>	Business Computer Programming I** or Networking Essentials or Computer Cabling and Design or Introduction to Computer Maintenance			
	11th	<b>Core Courses</b>	English III Algebra II Physics	United States History Communication Applications PE or Equivalent		
		<b>Career-Related Electives</b>	Telecommunications and Networking** or Internetworking Technologies I or Computer Maintenance Technician I			
	12th	<b>Core Courses</b>	English IV Precalculus Engineering	Government/Economics Fine Arts		
		<b>Career-Related Electives</b>	Internetworking Technologies II or Computer Maintenance Technician II or related Career Preparation program* or Independent Study or Calculus or AP Computer Science			
<b>Postsecondary</b>	<b>On-the-Job Training</b>	e-Trade Technician	Computer Maintenance Technician		<p><b>Professional Associations:</b> American Society for Engineering Education Association for Women in Computing Computer Security Institute Computer Technology Industry Association IEEE Computer Society Information Technology Association of America Institute of Configuration Management National Society of Professional Engineers Texas Board of Professional Engineers</p>	
	<b>Certificates</b>	A+ or I-Net+ Network+ OSHA CareerSafe	Cisco Certified Network Associate (CCNA) Internet and Computer Core Certification (IC3)	<p><b>Career Options:</b> Applications Specialist Programmer</p> <p>Administrative Assistant Database Associate</p>		
	NOTE: These experiences may be started and/or completed as part of the high school experience.					
<b>Postsecondary</b>	<b>Associate's Degrees</b>	Applied Mathematics Computer and Information Sciences Electrical and Electronic Equipment Installers and Repairers	Computer Programming Network and Information Technology Laser and Optical Technology	<p><b>Career Options:</b> Network Technician Documentation Writer</p> <p>Industrial Electronics Repairer Data Systems Technician Code Programmer</p>		
	<b>Bachelor's Degrees</b>	Computer Science Computer Science - Systems Computer Engineering Technology Telecommunications	Computer Engineering Computer Systems Engineering Microelectronics Biomedical Engineering	<p><b>Career Options:</b> Autonomy Developer Firmware Engineer Network Engineer</p> <p>Diagnostic Engineer Manufacturing Engineer</p>		
	<b>Graduate Degrees</b>	Computer Engineering Systems Engineering Manufacturing Systems Engineering - Robotics and Control	Network Communications Technology Project Management	<p><b>Career Options:</b> Robotics Engineer Manufacturing Engineering</p> <p>Embedded Electronics Engineer Communication Network Designer Internationalization Engineer</p>		

\*May substitute for the required credit for Physical Education  
\*\*Satisfies the required credit for Technology Applications  
\*\*\*May substitute for the required credit for Health Education

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated courses, if possible.

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2007. All plans should meet high school graduation requirements as well as college entrance requirements. Students may select other elective courses for personal enrichment purposes.