

## Information Support & Services Pathway Course Descriptions

**Digital Electronics I** presents students with instruction and skills in basic electricity and electronics. The course familiarizes students with safe laboratory practices, introduction of electrical quantities, color code, circuit test equipment, simple wave-forms, circuit analysis, and construction techniques involving both passive and active devices.

**Digital Electronics II** The digital electronics course familiarizes students with digital logic technologies. Students will develop the technical skills necessary to continue follow-on course work in Computer Service and Support and computer network technologies. Students study digital number systems, logic gates and circuits, Boolean algebra, arithmetic logic circuits, encoders, decoders, digital memory, digital to analog and analog to digital converters, as well as circuit design and fabrication.

**Computer Service and Support** Students will be trained to use tools, electronics test equipment, and software to analyze and solve personal computer problems. They will also learn about computer architecture and operation. During the course students will analyze defective equipment, determine corrective measures, and make equipment operational if possible. Students will build a personal computer as part of the requirement of this course as well as prepare for the CompTIA A+ certification exam.

**Cisco Academy Networking I** This course prepares students to become network engineers. This course teaches students to design, build, and maintain small to medium-sized networks. Topics include communication protocols, network topologies, IP addressing, and networking components. Students work in a lab setting using computers, servers, and routers which they assemble into functional

networks. This course is preparation for CCNA certification.

**Marketing & Entrepreneurship** This course focuses on recognizing a business opportunity, starting a business based on the recognized opportunity, and operating and maintaining that business. This course includes planning and strategy concepts, financial and organizational considerations, accounting and financial controls, and other components of business operation. Workplace skills such as time management, money management, materials management, human resources management, facilities management, teamwork, decision making, problem solving, negotiations, work ethics and creative thinking are included.

**Web Site Development & Management** Students will design, implement, and manage a web site. This is a hands-on laboratory course designed to teach students the concepts, skills and processes involved in web site development and management. Digital imagery and image editing will be introduced as well as graphic design. Students will evaluate a variety of existing web sites for content, design, and functionality. Students will work collaboratively to design, construct, and maintain an interactive web site based on a single theme or project. Students will use electronic learning services to access additional resources.

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HIGH SCHOOL  
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America's need for a highly skilled  
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**Do you like taking things apart to see how they work? Are you fascinated by electronic gadgets? Do you do well in your math, science, or computer classes? If the answer to these questions is yes, you might want to consider a career in Engineering or Scientific Technology.**

### **What's so important about Professional Technologies Studies?**

- ✓ Employers are finding it increasingly difficult to hire qualified employees to work in technical career fields.
- ✓ Too many college students (over 50%) drop out of engineering and technical programs because they did not have high school exposure in these courses.
- ✓ Over 70% of all new careers will incorporate engineering or scientific technology as an essential component of their work.
- ✓ These courses connect math and science to the real world.

### **What Are Career Clusters and Pathways?**

Career clusters are occupations/careers that are grouped together because the people in them share similar interests, talents, and abilities. Pathways are a series of related courses that can prepare students to pursue these career opportunities. Students at the 9<sup>th</sup> and 10<sup>th</sup> grade level might start identifying which pathway seems the most appealing to them. Students at the 11<sup>th</sup> and 12<sup>th</sup> grade will start finding interesting occupations within their chosen pathway.

All career clusters include a variety of occupations that require different levels of education and training. As early as 10<sup>th</sup> or 11<sup>th</sup> grade, students should be researching the necessary education for their chosen occupations.

### **We have courses that can help you explore many Professional Technical careers.**

The Professional Technical Studies program in your school can help you select a sequence of courses that are designed to help you explore a career in technology. Our goal is to prepare you for a two or four-year college or technical program after you complete high school. Each class we offer uses state-of-the-art technology and software. These courses are taught using experimentation and project work rather than lectures to help you learn the material and develop skills. Classes focus on problem solving and encourage students to work in teams. As part of the capstone project during your senior year, you will work as an intern to further your course of study. In many cases, you may actually earn college credit through special agreements with colleges.

### **Here's why you should take Professional Technical Studies courses in High School**

Professional Technical Studies are a collection of demanding courses. You will have an opportunity to explore a broad field of engineering and technical studies. These courses can help you choose a career and make decisions about further education. It's important to note that most rewarding careers in technology do not require four-year college degrees. However, it is better to find out in high school if a particular area of study is not for you rather than waiting until college. These interesting courses are project based and are designed to develop your problem solving skills

as both a member and leader of a team. This is an important skill that will set you apart from others when you enter the world of work. After completing this sequence of courses, you will have a competitive advantage when you start your college or technical school classes.

### **Here's how you can fit Professional Technical Studies into your high school schedule.**

Here's a sample schedule that leads to certification in this area of study. **Students who enroll in this program are expected to complete a college preparatory sequence of courses in math and science.**

#### **Information Support & Services**

<b>Grade 9</b>	<b>Units</b>	<b>Grade 10</b>	<b>Units</b>
English	1	English	1
World Regions	1	World History	1
Intro to Algebra	1	Algebra I	1
Science	1	Biology I	1
Digital Electronics I	.5	Comp Srv & Spt	1
Digital Electronics II	.5	Computer Class	1
Phys. Ed.	1	Elective	1
Elective	1		
<b>Grade 11</b>	<b>Units</b>	<b>Grade 12</b>	<b>Units</b>
English	1	English	1
US History	1	US Government	.5
Geometry	1	Algebra II	1
Physics	1	Chemistry	1
Cisco Networking I	1	Entrepreneurship	.5
Website Dsgn Dev	.5	Health	.5
Foreign Language	1	Foreign Language	1
Elective	.5	Elective	1

**\* It is still worthwhile to take one or two courses if you can't take the whole sequence... Ask your counselor!**