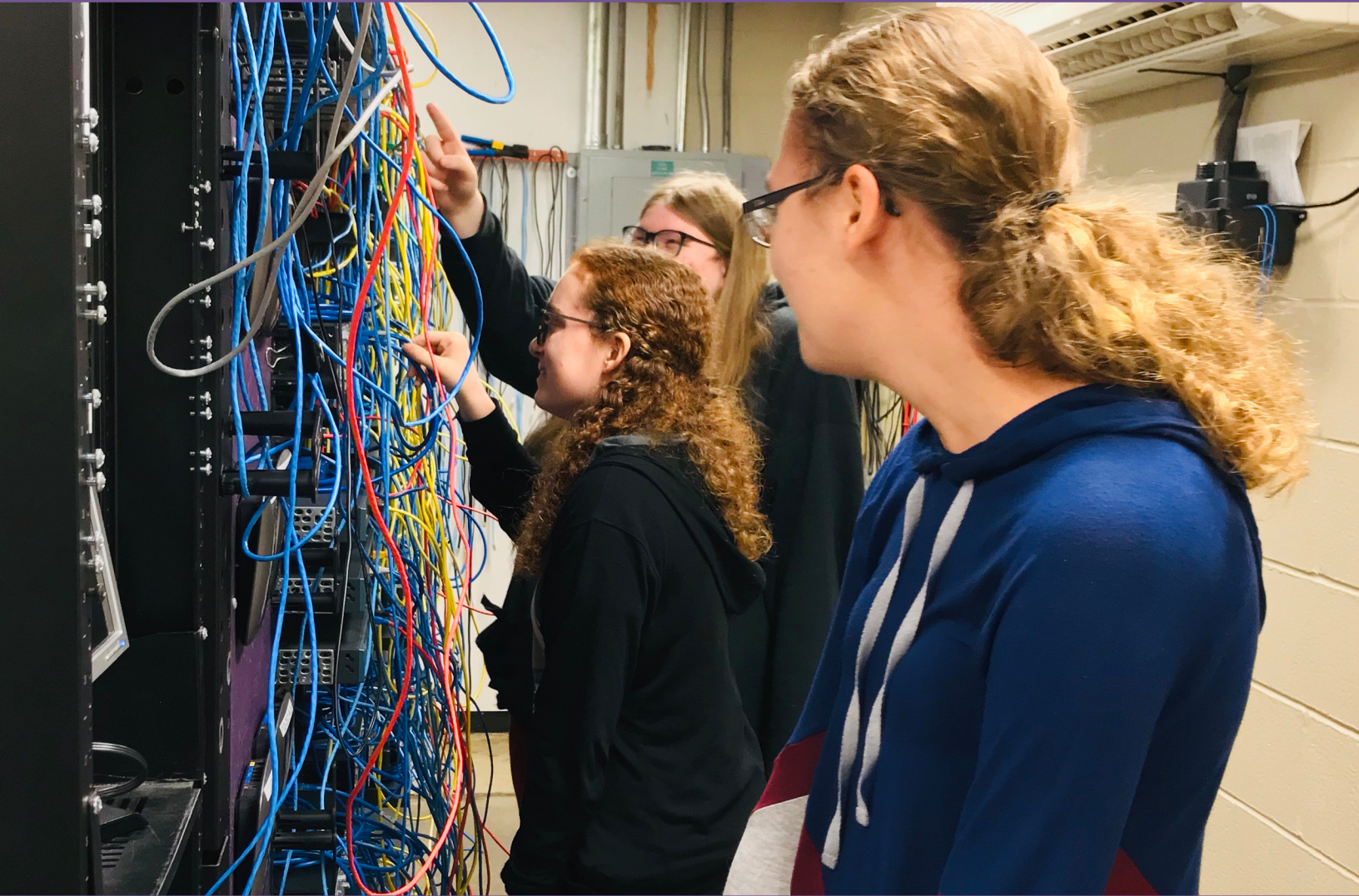




# CAREER AND TECH EDUCATION



## JACKSON CISCO NETWORKING ACADEMY®

**JACKSON**  
HIGH SCHOOL

JACKSON HIGH SCHOOL CAREER AND TECHNICAL EDUCATION  
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# CISCO NETWORKING ACADEMY®

## Jump Start Your Future in Cisco® Networking

### COMPUTER NETWORKING AND CYBERSECURITY ACADEMY

CCNA® Routing and Switching is designed for students with advanced problem solving and analytical skills, such as students pursuing degrees in engineering, information technology, math, or science. Students are expected to know binary math and understand the concept of algorithms.

The Cisco® curriculum provides an integrated and comprehensive coverage of networking topics, from fundamentals to advanced applications, while providing opportunities for hands-on experience and soft-skills development through simulation-based learning activities, and online assessments. The curriculum emphasizes critical thinking, problem solving, collaboration, and the practical application of skills in a real world environment. The Cisco Networking Academy® helps prepare students for entry-level career opportunities, continuing education, and the globally-recognized CompTIA A+, Cisco CCNA®, CCNA Cybersecurity Operations and CCNA Security certification. In addition, the courses help provide learning pathways from secondary to post-secondary institutions.

Industry Recognized Certification- As a CompTIA Authorized Quality Curriculum learning institution, PC Hardware and Software will help prepare students for the CompTIA A+ Essentials and job-skills certification exams. After completing all four courses of CCNA Routing and Switching, students will be prepared to take the Cisco CCNA® certification exam. If students complete the optional Network/Cybersecurity coursework courseworks they will be prepared for the Security Fundamentals and Security Operations exams which align with the CCNA Cyber Ops and CCNA Security certification.

Visit [www.Cisco.com/web/learning/netacad/index.html](http://www.Cisco.com/web/learning/netacad/index.html) for more information align with the CCNA Cyber Ops certification.

#### For More Information

330-837-3501

Scott Elkins, CISCO® Instructor, extension 1533

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### Curriculum

#### Junior Year Program (3 periods- 3 credits)

**Information Technology** - This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society. Students will learn safety, security, and ethical issues in computing and social networking. Students will also learn about input/output systems, computer hardware, operating systems, and office applications.

**Computer Hardware** - Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized.

**Computer Software** - Students will apply knowledge and skills of commercial and open source operating systems in portable, stand alone, and networked devices. Students will install a variety of operating systems manually and using remote assistance. They will learn to configure, modify, and troubleshoot operating systems. Desktop virtualization, system security, and operating system history will be addressed.

#### Senior Year Program (2 periods- 2 credits, optional 1 period - 1 credit)

**Networking** - Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, and cabling. Students will design simple networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the operation and usage of network protocols will be developed.

**Routing and Switching** - Student will learn the functions, characteristics, and operations of routers and switches. Students will learn about wireless network standards, components, and the role that routers play in enabling communications across multiple networks. Students will troubleshoot the routing process. Students will examine the use of Virtual Local Area Networks (VLANs) to create logically separate networks.

**Cybersecurity - (Senior Option)** Students will learn the components of cybersecurity and the role each plays in preventing, detecting and mitigating vulnerabilities and attacks. Components include the security of the network infrastructure, security of the systems, and the prevention, detection, and mitigation of common vulnerabilities and attacks. Throughout this course, students will examine and implement security safeguards for desktop, network, and application security.

**Network Security - (Senior Option)** for students who have successfully completed their junior year and have enrolled in Networking and Routing and Switching. Network Security will address securing networks and operating systems. Students will learn to secure network communications, computer hardware, and network software. Topics included are network security theory, cryptography, security architecture, firewalls, VPN, IP security, and methods of protection.

#### Cisco® courses completed the Junior year of this 2 year program include:

**IT Essentials: PC Hardware and Software**- This portion of the course provides an excellent introduction to the IT industry and interactive exposure to personal computers, hardware, and operating systems.

**CCNA Routing and Switching: Introduction to Networks**- This portion of the course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks.

**CCNA Routing and Switching: Routing and Switching Essentials**- The final portion of the course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students must successfully complete Network Fundamentals to move on to this section.

Cisco® courses completed the Senior year of this 2 year program include:

**CCNA Routing and Switching: Scaling Networks**- This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network.

**CCNA Routing and Switching: Connecting Networks**- This course discusses the WAN technologies and network services required by converged applications in enterprise networks.

**CCNA Cybersecurity Operations (optional)**- Helps students develop the skills needed for entry level network-security career opportunities covering knowledge and skills needed to successfully handle the tasks, duties, and responsibilities often required by an associate-level Security Analyst working in a Security Operations Center.

**CCNA Security (optional)**- This is a hands-on, career-oriented course with an emphasis on practical experience to help students develop specialized security skills to advance their careers. Security safeguards for desktop, network, and application security.