CISCO NETWORK ENGINEERING

STATEWIDE PROGRAM OF STUDY: NETWORKING SYSTEMS

Course	Credits	Class Periods	Grade	Location
Principles of Information Technology* OR	1.0	1	8	Junior High
Introduction to Computer Science* OR	1.0	1	9-12	Home Campus
Computer Science I* OR	1.0	1	9-12	Home Campus
AP Computer Science Principles* *Prerequisite: Algebra I* OR	1.0	1	9-12	Home Campus
AP Computer Science A* *Prerequisite: Algebra I* *Successful completion of this course awards one advanced math credit and one language other than English credit*	1.0	1	9-12	Home Campus
Network Engineering I *Prerequisite: Principles of Information Technology* or Intro to Computer Science* or Computer Science I* or AP Computer Science Principles* or AP Computer Science A* or Computer Technician** **The Class of 2026 is waived from the prerequisite requirement for Network Engineering.* *Note: Students must have completed Algebra II or be concurrently enrolled in Algebra II*	2.0	2	11-12	MCTC
Network Engineering II *Prerequisite: Network Engineering I*	2.0	2	12	MCTC

CERTIFICATION OPPORTUNITY

- Cisco Certified Network Associate (CCNA) Certification

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8685V CISCO NETWORK ENGINEERING I

Grades: 11-12   2 Credits

Prerequisites: Algebra II or concurrent enrollment in Algebra II AND Principles of Information Technology*
or Introduction to Computer Science* or Computer Science I* or AP Computer Science Principles* or
AP Computer Science A* or Computer Technician*
*The Class of 2026 is waived from the prerequisite requirement for Cisco Network Engineering I, with the exception
of Algebra II.
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This course provides an introduction to the basics of computer networking. Students focus on network architecture, function, theory, and design. Students build networks using enterprise-level Cisco equipment and learn hands-on job skills, including network configuration and troubleshooting. By the end of the course, students will be able to design and build LANs, configure enterprise routers and switches, and implement IP addressing schemes.

8686V CISCO NETWORK ENGINEERING II

Grade: 12   2 Credits

Prerequisite: Network Engineering I
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This course focuses on advanced network engineering concepts used to support large-scale enterprise networks that are commonly found in the industry today. It is designed to prepare students to sit for Cisco's CCNA certification exam. Students learn advanced routing and switching concepts, wireless essentials, and network security automation. They troubleshoot routers and switches and learn to resolve common issues.

PROGRAM EXPERIENCES

This class is designed to prepare students for entry-level work in network engineering. It lays the foundation for not only networking, but also IT specialties such as cyber security.

Students learn how to build and maintain the enterprise level networks that companies large and small rely on. The knowledge and experience gained in this class can lead to an early start to a career in IT.

CAREER POSSIBILITIES

- Chief Information Officer
- IT Manager
- Network Engineer
- Cloud Computing Specialist
- Systems Administrator

EXPECTATIONS OF STUDENTS

- Willingness to engage in lectures and labs to practice knowledge gained.
- Ability to acquire basic understanding of how networks function.
- Ability to work independently on the computer.