

Curriculum Guide Computer Networking I

Sequoia Union High School District

Course: Computer Networking I

Description:

Introduction to network design and installation. Students learn to design, build and troubleshoot small to large computer networks. The focus of the first semester is network design. Topics include: OSI and TCP/IP Model, IP Addressing, LAN Media & Topologies and Cabling. The focus of the second semester is router configuration. Topics include: WANs and routers, routing protocols, steps for router configuration, routed protocols, TCP/IP, IP Addressing and network troubleshooting. Students can take the first half of the the Cisco Certified Network Associate (CCNA) exam at the end of the course.

Prior Learnings/Prerequisites:

Algebra I (may be taken concurrently) and basic computer skills.

Grade Level: 9-12

Length of Course: 1 Year

Units: 10

Meets Requirements for:

- Practical Arts
- Tech Prep Program
- SUHSD Technology Graduation Requirement

Content Standards and Benchmarks	Teaching Strategies, Materials, Assessment
<p>IT IS Standards:</p> <ul style="list-style-type: none"> ▪ Ic ▪ Id ▪ If ▪ Ig ▪ Ih ▪ Ij ▪ Ik ▪ IVa ▪ IVe ▪ IVg ▪ IVm ▪ IVn ▪ IVp 	<p>This is a hands-on course, where most of the time students perform tasks on a computer or on equipment (switches, routers, etc). The teacher demonstrates and models appropriate computer and software use as well as installation of hardware, and students demonstrate that use via various exercises out of the texts, materials created by the teacher, and materials available through the Internet. Through the Windows operating system, students create and organize folders. Students log into the classroom network, retrieve and save documents to network folders, and attach documents to e-mail.</p> <p>Multiple-choice, short-answer questions, projects and authentic-assessment are utilized.</p> <p>Students can take the first half of the the Cisco Certified Network Associate (CCNA) exam at the end of the course.</p>

SUHSD Course (cont.): Computer Networking I

<p>Core Textbooks and Instructional Material (See attached approved district list.)</p> <p>All coursework is online via Cisco.</p>	<p>Prevention, Intervention and Extension Strategies (Include strategies to address students in ESL, GATE, Special Ed., etc. How is instruction individualized?)</p> <p>The goal and expectation is for all students to succeed. Material is presented in several ways to facilitate effective learning: textbooks and written materials are provided; step-by-step visual handouts are provided; teacher-led instruction is provided, using the LCD projector or Vision system; individual instruction is provided; and hands-on learning is available every day. ESL: Some directions and exercises are available in Spanish. Student translators help explain strategies and directions when lessons are only available in English. Authentic assessment is utilized whenever possible. GATE: Lessons are sequenced to increase in difficulty, providing challenges for more advanced students. Students move at their own pace and are given beyond-plus projects. Special Ed. and 504: The student's IEP directs the curriculum.</p>
<p>Possible Correlation to Other Subject Areas (Where could content, skills, resources, teaching strategies overlap?)</p> <p>Drafting, industrial arts courses, ROP Construction courses.</p>	<p>Professional Resources (Websites, books, consultants, videos, etc.)</p> <ul style="list-style-type: none">▪ Guest speakers▪ Field trips
<p>Potential Articulation with Other Programs (Community College, Tech Prep, ROP, Distance Learning, etc.)</p> <p>Students who complete both courses (I & II) may receive community college credit for the course as part of the Tech Prep Program.</p> <p>Passage of the CCNA exam grants certification.</p>	<p>Other Pertinent Information</p>