



COURSE SYLLABUS

Programs in Technology Education

General H.H. Arnold High School

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- I. COURSE NUMBER AND TITLE: **Networking I**
- II. CREDIT: 2 Semesters (First Part of a 4 Semester Course)
- III. PREREQUISITE: None
- IV. COURSE DESCRIPTION: The Networking I course prepares students to become network engineers. Otherwise known as the Cisco Academy, this course teaches students to design, build, and maintain small to medium-sized information 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 comprises two semesters of four semester Cisco Academy curriculum and is the first step in CCNA exam preparation.
- V. COURSE OBJECTIVES:
- Upon completion of this course, students should be able to
1. Maintain safety awareness in the laboratory.
 2. Research the evolutionary development of the network and internet.
 3. Investigate methods of producing, transmitting, storing, and using data.
 4. Demonstrate a clear understanding of the OSI model.
 5. Apply the OSI and TCP/IP models to networks and network troubleshooting.
 6. Correctly construct network cables and properly install network cabling.
 7. Correctly assemble and configure a working 5 router stack.
- VI. COURSE OUTLINE
- | Semester 1 | Semester 2 |
|-------------------------------------------------|-----------------------------------------|
| 1 - Introduction to Computing | 1 - Review of Semester 1 |
| 2 - The OSI Model | 2 - WANs and Routers |
| 3 - Local Area Networks (LANs) | 3 - Router Command Line Interface (CLI) |
| 4 - Layer 1: Electronics and Signals | 4 - Router Components |
| 5 - Layer 1: Media, Connections, and Collisions | 5 - Router Startup and Setup |
| 6 - Layer 2: Concepts | 6 - Router Configuration 1 |
| 7 - Layer 2: Technologies | 7 - IOS Images |
| 8 - Design and Documentation | 8 - Router Configuration 2 |
| 9 - Structured Cabling Project | 9 - TCP/IP |
| 10 - Layer 3: Addressing and Routing | 10 - IP Addressing |
| 11 - Layer 3: Routing and Protocols | 11 - Routing |
| 12 - Layer 4: The Transport Layer | 12 - Routing Protocols |
| 13 - Layer 5: The Session Layer | 13 - Network Troubleshooting |
| 14 - Layer 6: The Presentation Layer | |
| 15 - Layer 7: The Application Layer | |
- VII. CURRENT TEXTS: On-Line Cisco Academy Resources
- VIII. PREPARED: August 25, 2002