

NETWORKING 1

Ketchikan School District

(Date when course last reviewed/updated__12/1/03

Pre-requisite Courses(s): none

High School Credit: 1.0 (.5 per semester) **Postsecondary credit =** yes

Pathway: Business, Management & Technology **Career Cluster Area:** Information Technology

Source of Occupational Skills Standards: CISCO

Eligibility for Nationally Recognized Skill Certificates(s)/State License? Yes, if test is passed; Cisco Corporation

Tech Prep: yes

Is this course brokered through another institution or agency? University of Alaska SE, Ketchikan

Course Description:

This course is designed to build practical networking knowledge and technological literacy for students interested in networking, computer engineering and other IT careers.

Content Headings/Topics:

Terminology	OSI model	routing protocols	IP addressing
Router configuration	network topologies	network architectures	design & implementation

Performance Standards

Performance Standards	Specific Occupational skills	Ak Reading Writing Math,Science Performance Standards	Ak Content Standards Technology	Ak Employability Standards	Ak Cultural	All Aspects of Industry Standards	Assessment

1. Students will be able to define and use the OSI Model for networking, describe the basic functions of each layer, and define internetworking devices that operate on each layer.	1,18,46,47	R 4.1; R 4.4 R 4.6 W 4.3	E1, E5 E8	A5; B2	none	5	Exam 640-407
2. Students will be able to analyze the data encapsulation process.	3,5,48	R 4.4 R 4.3	A3;E5	B2	none	5	Exam 640-407
3. Students will be able to develop an IP addressing scheme for simple and complicated networks.	3,19,22,23,24	R 4.1; A1.4.1 A1.4.2; A1.4.7 A 2.4.1 A 3.4.5	A3, C1, C2, E8	B2	none	4	640-407
4. Students will be able to describe the routing process.	18,20,21,26,27,28	R 4.1; R4.4 R 4.6	A3,C1,C2 E8	B2	none	5	640-407
5. Students will be able to describe network topologies, their architecture, and the media use.	40-43; 55-60	R 4.1; R4.4 R 4.6 W 4.1	A2,3,4,5 C1,2,3 E1,5,7,8	B2	none	5	640-407
6. Students will be able to define basic electricity terms and identify proper network protection equipment.	5	R4.1; R4.4 R4.6; W4.1	A1,3,5 C1,2 E1,2,5-8	A6, B2	none	5	640-407

1- plan; 2- management; 3- finance; 4- tech/prod; 5- prin. of tech; 6- labor; 7- community; 8- health,safety; 9- personal work habits

Performance Standards

	Specific Occupational skills	Ak Reading Writing Math, Science Performance Standards	Ak Content Standards Technology	Ak Employability Standards	Ak Cultural	All Aspects of Industry Standards *****	Assessment
7. Students will identify and use basic network management techniques.	5	R4.1; R4.4 R4.4; W4.1 W4.4; R4.6	A3,4,5 C1,2,3 E1,5,7,8	B2	none	2	640-407
8. Students will be able to use various commands to identify a router’s setup.	7,8,9,10	R4.1; R4.4 R 4.6	A1,2,3,4,5 C1,2,3 E1	B2	none	4	640-407
9. Students will be able to enter a router configuration.	11-17; 23,25	R4.1; R4.4 R 4.6	A1,2,3,4,5 C1,2,3 E1	B2	none	4	640-407
10. Students will be able to describe TCP/IP	23,24,25, 49,50	R4.1; R4.4 A2.4.3; A1.4.1 A1.4.4; A1.4.2 A1.4.7	A1,2,3,4,5 C1,2,3,E1	B2	none	5	640-407
11. Students will be able to enable routing protocols on a router.	26,27	R 4.1 R 4.2	A1,2,3,4,5 C1,2,3 E1	B2	none	4	640-407

1- plan; 2- management; 3- finance; 4- tech/prod; 5- prin. of tech; 6- labor; 7- community; 8- health,safety; 9- personal work habits

Recommended Resources: (websites, textbooks, essential equipment, reference materials, supplies)

Websites: cisco.netacad.net Students and Teachers curriculum and teachers resources
Local website: cisco.kgbsd.org curriculum

Textbooks: (including lab books)

Resource books: ie,ccna test guides

Essential equipment: cisco standard lab (5 routers; 10 pcs;s; 2 switches; one hub, cabling, racks, etc)
1 PC per student for curriculum access and web-based research

Supplies: Cat-5 cable, connectors, tools, testers, wall jacks, punch down connectors

Practice Wall: mounting jacks and running cable; drills, hole savers, etc.