

Cybersecurity for Curriculum Alignment

2. Networking Fundamentals

	KSA Description	Knowledge, Skill, or Ability?	Bloom's Taxonomy Level?	Cross-cutting KSAs	Course Number/Name	Learning Outcome
a	Apply networking fundamentals to infrastructure in an organization	Skills	3			
b	Understand the OSI model, identify the layers and how they applies to an example network	knowledge	2			
c	Identify the layers of the OSI Model.	Knowledge	2	Networking 3c		
d	Summarize the responsibilities of each layer of the OSI Model.	Knowledge	2	Networking 3d		
e	Explain how the OSI Model is applied in networking.	Knowledge	3	Networking 3e		
f	Configure IPv4 subnets.	Skill	1	Networking 3f		
g	Compare public IP addresses and private IP addresses.	Knowledge	2	Networking 3g		
h	Identify IPv4 address network ID (Class A, Class B, Class C).	Knowledge	2	Networking 3h		
i	Interpret classless network ID (CIDR block notation).	Knowledge	2	Networking 3i		
j	Explain IPv6	Knowledge	2			
k	Explain DNS traffic	Knowledge	2	Networking 3a		
l	Explain domain naming conventions (UNC path, FQDN, host name).	Knowledge	3	Networking 3j		
m	Explain how DNS works.	Knowledge	2			
n	Compare Network Address Translation and Port Address Translation (NAT vs PAT).	Knowledge	2	Networking 3k		
o	Draw a network diagram.	Skill	3	Networking 3l		
p	Analyze the output from networking utilities (e.g. Netstat, Tracert, Traceroute, Ping, IPConfig, IFConfig).	Ability	3	Networking 3m		
q	Discuss network software integration (client software (e.g. Windows 10 or Ubuntu) and server software).	Ability	3	Networking 3n		
r	Discuss network hardware integration (workstations, desktop, mobile devices).	Knowledge	2	Networking 3o		
s	Communicate best practices for troubleshooting networking issues	Knowledge	3	Networking 3p		