How NCL Skill Categories Align to the NIST NICE Workforce Categories and CompTIA Certifications

The National Cyber League (NCL), powered by Cyber Skyline, enables high school and college students across the U.S. to prepare and test themselves against practical cybersecurity challenges they will likely face in the workforce. The National Institute of Standards and Technology (NIST), through the National Initiative for Cybersecurity Education (NICE), has created a widely used Cybersecurity Workforce Framework to standardize cybersecurity competency areas and terminology. NCL's partner, CompTIA, offers relevant certifications for the cybersecurity profession.

The chart below shows alignment of the nine **NCL Game categories** to NIST NICE Cybersecurity **Work Roles** and **CompTIA Certifications.** Using this chart, cybersecurity recruiters are able to quickly match the hands-on knowledge and skills of NCL student players to cybersecurity job openings. NCL also aligns with the NSA Centers of Academic Excellence in Cyber Defense (CAE-CD) Knowledge Units and CompTIA Security Certifications.
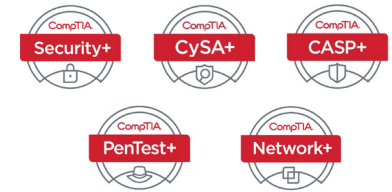
KEY: The National Cyber League (NCL) Competition consists of nine skill categories shown below.

CompTIA Relevant Certifications

Open Source Intelligence · Cryptography · Password Cracking · Log Analysis · Network Traffic Analysis · Forensics · Web Application Exploitation · Scanning · Enumeration and Exploitation

CompTIA Security+ · CompTIA CySA+ · CompTIA CASP+ · CompTIA PenTest+ · CompTIA Network+

NIST NICE CYBERSECURITY WORK ROLE	NIST NICE SPECIALTY AREA	NIST NICE CYBERSECURITY WORKFORCE CATEGORY	RELEVANT COMPTIA CERTIFICATION	NCL SKILL CATEGORIES
All-Source Analyst	All-Source Analysis	Analyze		(icons)
COMSEC Manager	Cybersecurity Management	Oversee and Govern	CompTIA CASP+	(icons)
Cyber Crime Investigator	Cyber Investigation	Investigate	CompTIA PenTest+	(icons)
Cyber Defense Analyst	Cyber Defense Analysis	Protect and Defend	CompTIA Network+, CompTIA Security+, CompTIA PenTest+, CompTIA CySA+, CompTIA CASP+	(icons)
Cyber Defense Forensics Analyst	Digital Forensics	Investigate	CompTIA Network+, CompTIA Security+, CompTIA PenTest+, CompTIA CySA+, CompTIA CASP+	(icons)
Cyber Defense Incident Responder	Incident Response	Protect and Defend	CompTIA Network+, CompTIA Security+, CompTIA PenTest+, CompTIA CySA+, CompTIA CASP+	(icons)

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Skill categories:
- Open Source Intelligence
- Cryptography
- Password Cracking
- Log Analysis
- Network Traffic Analysis
- Forensics
- Web Application Exploitation
- Scanning
- Enumeration and Exploitation

NIST NICE CYBERSECURITY WORK ROLE	NIST NICE SPECIALTY AREA	NIST NICE CYBERSECURITY WORKFORCE CATEGORY	RELEVANT COMPTIA CERTIFICATION	NCL SKILL CATEGORIES
Cyber Defense Infrastructure Support Specialist	Cyber Defense Infrastructure	Protect and Defend	Network+, Security+, PenTest+, CySA+, CASP+	[multiple skill category icons]
Cyber Intel Planner	Cyber Operational Planning	Operate and Collect	PenTest+, CySA+, CASP+	Open Source Intelligence, Cryptography, Scanning
Cyber Operations Planner	Cyber Operational Planning	Operate and Collect	PenTest+, CySA+, CASP+	[multiple skill category icons]
Cyber Operator	Cyber Operations	Operate and Collect	PenTest+, CySA+, CASP+	[multiple skill category icons]
Data Analyst	Database Administration	Operate and Maintain	CASP+	[multiple skill category icons]
Database Administrator	Database Administration	Operate and Maintain	CASP+	[multiple skill category icons]
Enterprise Architect	Systems Architecture	Securely Provision	CASP+	[multiple skill category icons]
Exploitation Analyst	Exploitation Analysis	Analyze	PenTest+, CySA+, CASP+	[multiple skill category icons]
Forensics Analyst	Digital Forensics	Investigate	Network+, Security+, PenTest+, CySA+, CASP+	[multiple skill category icons]

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CompTIA Relevant Certifications

Open Source Intelligence	Cryptography	Password Cracking	Log Analysis	Network Traffic Analysis	Forensics	Web Application Exploitation	Scanning	Enumeration and Exploitation

CompTIA: Security+ · CySA+ · CASP+ · PenTest+ · Network+

NIST NICE CYBERSECURITY WORK ROLE	NIST NICE SPECIALTY AREA	NIST NICE CYBERSECURITY WORKFORCE CATEGORY	RELEVANT COMPTIA CERTIFICATION	NCL SKILL CATEGORIES
Information Systems Security Developer	Systems Development	Securely Provision	CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Web Application Exploitation, Enumeration and Exploitation
IT Program Auditor	Acquisition and Program/Project Management	Oversee and Govern	CASP+	Open Source Intelligence, Log Analysis, Network Traffic Analysis, Scanning
Language Analyst	Language Analysis	Analyze		Open Source Intelligence, Cryptography
Network Operations Specialist	Network Services	Operate and Maintain	Network+, Security+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning
Partner Integration Planner	Cyber Operational Planning	Operate and Collect	PenTest+, CySA+, CASP+	Open Source Intelligence, Log Analysis, Scanning, Forensics
Privacy Compliance Manager	Legal Advice and Advocacy	Oversee and Govern		Open Source Intelligence, Log Analysis
Requirements Planner	Systems Requirements Planning	Securely Provision	CASP+	Open Source Intelligence, Log Analysis, Scanning
Research & Development Specialist	Technology R&D	Securely Provision	PenTest+, CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Web Application Exploitation, Enumeration and Exploitation
Secure Software Assessor	Software Development	Securely Provision	PenTest+	Open Source Intelligence, Log Analysis, Network Traffic Analysis, Scanning

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NIST NICE CYBERSECURITY WORK ROLE	NIST NICE SPECIALTY AREA	NIST NICE CYBERSECURITY WORKFORCE CATEGORY	RELEVANT COMPTIA CERTIFICATION	NCL SKILL CATEGORIES
Security Architect	Systems Architecture	Securely Provision	CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Web Application Exploitation, Enumeration and Exploitation
Security Control Assessor	Risk Management	Securely Provision	Security+, PenTest+, CySA+, CASP+	Open Source Intelligence, Log Analysis, Network Traffic Analysis, Scanning
Software Developer	Software Development	Securely Provision	PenTest+	Web Application Exploitation, Enumeration and Exploitation
System Administrator	Systems Administration	Operate and Maintain	Network+, Security+, CySA+	Open Source Intelligence, Log Analysis, Network Traffic Analysis, Scanning
Systems Developer	Systems Development	Securely Provision	CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Web Application Exploitation, Enumeration and Exploitation
Systems Security Analyst	Systems Analysis	Operate and Maintain	Security+, PenTest+, CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Password Cracking, Web Application Exploitation, Enumeration and Exploitation
Target Analyst	Targets	Analyze		Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Web Application Exploitation, Forensics
Target Developer	Targets	Analyze		Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Web Application Exploitation, Enumeration and Exploitation
Technical Support Specialist	Customer Service and Technical Support	Operate and Maintain	Network+, Security+, PenTest+, CySA+	Open Source Intelligence, Log Analysis, Network Traffic Analysis, Scanning

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NIST NICE CYBERSECURITY WORK ROLE	NIST NICE SPECIALTY AREA	NIST NICE CYBERSECURITY WORKFORCE CATEGORY	RELEVANT COMPTIA CERTIFICATION	NCL SKILL CATEGORIES
Testing and Evaluation Specialist	Test and Evaluation	Securely Provision	PenTest+, CySA+, CASP+	Open Source Intelligence, Log Analysis, Scanning
Vulnerability Analyst	Vulnerability Assessment and Management	Protect and Defend	Network+, Security+, PenTest+, CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Password Cracking
Warnings Analyst	Threat Analysis	Analyze	PenTest+, CySA+, CASP+	Open Source Intelligence, Cryptography, Log Analysis, Network Traffic Analysis, Scanning, Password Cracking, Forensics

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