NCL Fall 2021 Individual Game Scouting Report

Dear Sean Dixon,

Thank you for participating in the National Cyber League (NCL) 2021 Fall Season! Our goal is to prepare the next generation of cybersecurity professionals, and your participation is helping achieve that goal.

The NCL was founded in May 2011 to provide an ongoing virtual training ground for collegiate students to develop, practice, and validate their cybersecurity skills in preparation for further learning, industry certifications, and career readiness. The NCL scenario-based challenges were designed around performance-based exam objectives of CompTIA certifications and are aligned to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

As you look to a future career in cybersecurity, we hope you find this report to be valuable in both validating skills and identifying areas for improvement across the nine NCL skills categories. You can use this NCL Scouting Report to:

- Validate your skills to employers in any job application or professional portfolio;
- Show case your achievements and strengths by including the Score Card view of your performance as part of your résumé or simply sharing the validation link so that others may view the detailed version of this report.

The NCL 2021 Fall Season had 7,130 students/players and 491 faculty/coaches from more than 500 two- and four-year schools & 70 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from October 22 through October 24. The Team Game CTF event took place from November 5 through November 7. The games were conducted in real-time for students across the country.

NCL is powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for players to compete and track their progress in real-time.

To validate this report, please access: cyberskyline.com/report/BLQCM7P3R9GW

CompTIA

Based on the the performance detailed in this NCL Scouting Report, you have earned **16 hours** of Continuing Education Units (CEUs) as approved by CompTIA. You can learn more about the NCL - CompTIA alignment via nationalcyberleague.org/comptia.

Congratulations for your participation in the NCL 2021 Fall Individual Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

David Zeichick
NCL Commissioner

POWERED BY CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

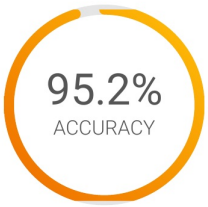
NCL 2021 FALL INDIVIDUAL GAME

NATIONAL RANK
156TH PLACE OUT OF 6480

PERCENTILE
98TH

YOUR TOP CATEGORIES

NETWORK TRAFFIC ANALYSIS	OPEN SOURCE INTELLIGENCE	FORENSICS
100TH PERCENTILE	100TH PERCENTILE	99TH PERCENTILE



Average: 65.3%

cyberskyline.com/report
ID: BLQCM7P3R9GW

NCL Fall 2021 Individual Game

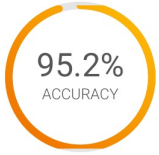
The NCL Individual Game is designed for student players nationwide to compete in realtime in the categories listed below. The Individual Game evaluates the technical cybersecurity skills of the individual, without the assistance of others.

156 TH PLACE OUT OF 6480
NATIONAL RANK

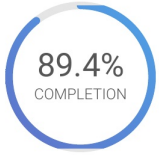
98th National Percentile

2335 POINTS OUT OF 3000
PERFORMANCE SCORE

Average: 698.4 Points



Average: 65.3%



Average: 31.0%

Cryptography

230 POINTS OUT OF 330

87.5% ACCURACY

COMPLETION: 87.5%

Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

Enumeration & Exploitation

220 POINTS OUT OF 320

100.0% ACCURACY

COMPLETION: 83.3%

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

Forensics

300 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 100.0%

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

Log Analysis

310 POINTS OUT OF 340

85.7% ACCURACY

COMPLETION: 94.7%

Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

Network Traffic Analysis

305 POINTS OUT OF 355

100.0% ACCURACY

COMPLETION: 95.8%

Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

Open Source Intelligence

300 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 100.0%

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

Password Cracking

245 POINTS OUT OF 320

100.0% ACCURACY

COMPLETION: 86.4%

Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

Scanning & Reconnaissance

270 POINTS OUT OF 310

100.0% ACCURACY

COMPLETION: 92.9%

Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

Web Application Exploitation

55 POINTS OUT OF 325

66.7% ACCURACY

COMPLETION: 28.6%

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

Note: Survey module (100 points) was excluded from this report.

Cryptography Module

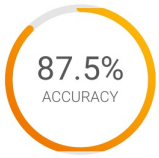
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

444 TH PLACE OUT OF 6480
NATIONAL RANK

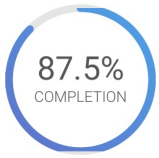
94th National Percentile

230 POINTS OUT OF 330
PERFORMANCE SCORE

Average: 134.1 Points



Average: 85.2%



Average: 53.1%

TOP NICE WORKROLES
Security Control Assessor
Secure Software Assessor
Exploitation Analyst
Cyber Operator
Security Architect

Decoding 1 (Easy)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Identify the type of base encoding used and decode the data			
Decoding 2 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Identify the cipher scheme used and decrypt the data			
Decoding 3 (Easy)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Identify the cipher scheme used and decrypt the data			
Decoding 4 (Medium)	35 POINTS OUT OF 35	100.0% ACCURACY	COMPLETION: 100.0%
Identify the alphabet encoding used and decode the data			
Decoding 5 (Hard)	50 POINTS OUT OF 50	75.0% ACCURACY	COMPLETION: 100.0%
Exploit an RSA implementation and extract the sensitive data that was encrypted			
Steg (Easy)	20 POINTS OUT OF 20	100.0% ACCURACY	COMPLETION: 100.0%
Identify the steganography technique used and extract the hidden data			
Cyber Cat (Easy)	0 POINTS OUT OF 50	0.0% ACCURACY	COMPLETION: 0.0%
Identify the metadata and encoding used to hide data in an image file			
SSL (Hard)	30 POINTS OUT OF 80	100.0% ACCURACY	COMPLETION: 66.7%
Parse through hundreds of SSL certificates to identify any invalid or improperly signed SSL certificates			

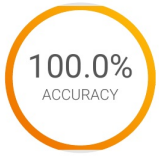
Enumeration & Exploitation Module

Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

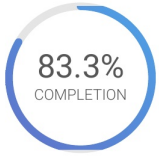
95 TH PLACE OUT OF 6480
NATIONAL RANK

99th National Percentile

220 POINTS OUT OF 320
PERFORMANCE SCORE
Average: 55.0 Points



Average: 43.1%



Average: 32.2%

TOP NICE WORKROLES
Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

Micro (Easy) Analyze a Lua script source code & reverse engineer its functionality	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Shinny (Medium) Analyze an obfuscated Python program & reverse engineer its functionality	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Rock (Hard) Decompile and analyze a C++ binary file & reverse engineer its functionality	20 POINTS OUT OF 120	100.0% ACCURACY	COMPLETION: 50.0%

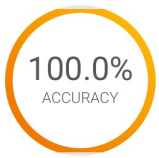
Forensics Module

Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

75 TH PLACE OUT OF 6480
NATIONAL RANK

99th National Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE
Average: 163.7 Points



Average: 73.5%

Average: 59.6%

TOP NICE WORKROLES
Cyber Defense Forensics Analyst
Cyber Crime Investigator
Cyber Defense Incident Responder
Cyber Defense Analyst

Archive (Easy) Fix a corrupted rar file to recover the archive's original contents	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Docter (Medium) Identify and extract files hidden inside a Microsoft Word document file	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Where in the World? (Hard) Analyze the available information in a photograph to identify where the photo was taken	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%

Log Analysis Module

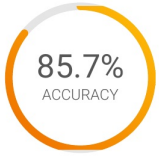
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

176 TH PLACE OUT OF 6480
NATIONAL RANK

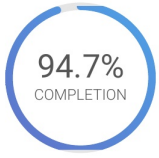
98th National Percentile

310 POINTS OUT OF 340
PERFORMANCE SCORE

Average: 103.9 Points



Average: 42.9%



Average: 35.2%

TOP NICE WORKROLES
Cyber Defense Analyst
Systems Security Analyst
All-Source Analyst
Cyber Defense Forensics Analyst
Data Analyst

Wild Web (Easy)	110 POINTS OUT OF 110	100.0% ACCURACY	COMPLETION: 100.0%
Analyze a web server's access logs to identify trends and suspicious access			
Mountains (Medium)	100 POINTS OUT OF 100	83.3% ACCURACY	COMPLETION: 100.0%
Execute commands on an Alpine Linux server to identify installed packages			
IDS (Hard)	100 POINTS OUT OF 130	75.0% ACCURACY	COMPLETION: 85.7%
Analyze an IDS log to identify indicators of compromise and attack signatures			

Network Traffic Analysis Module

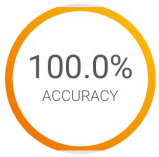
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

9 TH PLACE OUT OF 6480
NATIONAL RANK

100th National Percentile

305 POINTS OUT OF 355
PERFORMANCE SCORE

Average: 121.8 Points



Average: 65.0%

Average: 41.2%

TOP NICE WORKROLES
Cyber Defense Analyst
All-Source Analyst
Cyber Defense Incident Responder
Target Network Analyst
Cyber Operator

FTP (Easy)	80 POINTS OUT OF 80	100.0% ACCURACY	COMPLETION: 100.0%
Analyze a capture of FTP traffic to identify user credentials and files accessed			
Cracking (Medium)	55 POINTS OUT OF 55	100.0% ACCURACY	COMPLETION: 100.0%
Analyze and identify WiFi network metadata and crack the WiFi password			
TV (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Analyze a websocket packet capture containing smart TV control commands			
WiFi (Hard)	70 POINTS OUT OF 120	100.0% ACCURACY	COMPLETION: 85.7%
Identify the vulnerable data fields to exploit the 802.11 PMKID vulnerability and crack the WiFi network access password			

Open Source Intelligence Module

Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

59 TH PLACE OUT OF 6480
NATIONAL RANK

100th National Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 134.2 Points

100.0% ACCURACY

Average: 66.9%

100.0% COMPLETION

Average: 58.3%

TOP NICE WORKROLES
Systems Security Analyst
Target Developer
System Administrator
Research & Development Specialist
Cyber Intel Planner

Rules of Conduct (Easy)

15 POINTS OUT OF 15

100.0% ACCURACY

COMPLETION: 100.0%

Introductory challenge on acceptable conduct during NCL

APTs (Easy)

30 POINTS OUT OF 30

100.0% ACCURACY

COMPLETION: 100.0%

Identify attributes regarding popular Advanced Persistent Threats

Unknown Hash (Easy)

45 POINTS OUT OF 45

100.0% ACCURACY

COMPLETION: 100.0%

Identify the protocol associated with a hash digest and its associated files

Hacker Location (Medium)

50 POINTS OUT OF 50

100.0% ACCURACY

COMPLETION: 100.0%

Identify the location encoding scheme which uses only 3 words

Stolen Camera (Medium)

70 POINTS OUT OF 70

100.0% ACCURACY

COMPLETION: 100.0%

Extract camera serial number from an image and identify stolen camera registries

Tom's Hotel (Hard)

90 POINTS OUT OF 90

100.0% ACCURACY

COMPLETION: 100.0%

Identify attributes from a photo to pin point the location that the photo was taken

Password Cracking Module

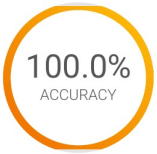
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

107 TH PLACE OUT OF 6480
NATIONAL RANK

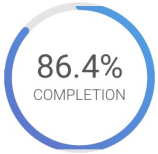
99th National Percentile

245 POINTS OUT OF 320
PERFORMANCE SCORE

Average: 94.4 Points



Average: 86.8%



Average: 43.0%

TOP NICE WORKROLES
Cyber Operator
Exploitation Analyst
Systems Security Analyst
Cyber Defense Incident Responder
Cyber Crime Investigator

Hashing (Easy)

15 POINTS OUT OF 15 | 100.0% ACCURACY | COMPLETION: 100.0%

Generate password hashes for MD5, SHA1, and SHA256

Cracking 1 (Easy)

30 POINTS OUT OF 30 | 100.0% ACCURACY | COMPLETION: 100.0%

Crack MD5 password hashes

Cracking 2 (Easy)

30 POINTS OUT OF 30 | 100.0% ACCURACY | COMPLETION: 100.0%

Crack Windows NTLM password hashes

Cracking 3 (Medium)

45 POINTS OUT OF 45 | 100.0% ACCURACY | COMPLETION: 100.0%

Build a wordlist or pattern config to crack password hashes of a known pattern

Cracking 4 (Hard)

20 POINTS OUT OF 95 | 100.0% ACCURACY | COMPLETION: 40.0%

Build a wordlist to crack passwords not found in common wordlists

ZIP (Medium)

30 POINTS OUT OF 30 | 100.0% ACCURACY | COMPLETION: 100.0%

Crack the password of a ZIP archive file

Kali Linux (Hard)

75 POINTS OUT OF 75 | 100.0% ACCURACY | COMPLETION: 100.0%

Crack the new yescrypt password hashes included in Kali Linux

Scanning & Reconnaissance Module

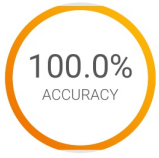
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

275 TH PLACE OUT OF 6480
NATIONAL RANK

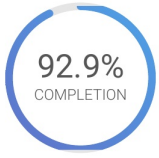
96th National Percentile

270 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 104.1 Points



Average: 52.9%



Average: 36.4%

TOP NICE WORKROLES
Vulnerability Assessment Analyst
Target Network Analyst
Cyber Operations Planner
Target Developer
Security Control Assessor

Port Scan (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Perform a port scan and identify services running on a remote host			
Treasure Hunt (Medium)	60 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 80.0%
Perform a directory scan and identify hidden files on a remote HTTP server			
Mail (Hard)	110 POINTS OUT OF 110	100.0% ACCURACY	COMPLETION: 100.0%
Perform a targeted service scan of a SMTP server to identify the names of users in the server directory			

Web Application Exploitation Module

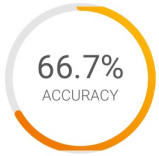
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

519 TH PLACE OUT OF 6480
NATIONAL RANK

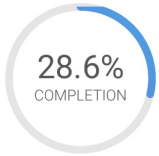
92nd National Percentile

55 POINTS OUT OF 325
PERFORMANCE SCORE

Average: 66.5 Points



Average: 59.1%



Average: 30.2%

TOP NICE WORKROLES
Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

Storage (Easy)	30 POINTS OUT OF 100	50.0% ACCURACY	COMPLETION: 33.3%
Analyze source code on a web page and exploit local authentication measures			
Pasta (Medium)	25 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 33.3%
Exploit the backdoor vulnerability present in a Node-RED IOT control server			
Leek (Hard)	0 POINTS OUT OF 125	0.0% ACCURACY	COMPLETION: 0.0%
Exploit the web server to obtain uninitialized server buffer memory and extract sensitive server-side data such as encryption keys			