The National Cyber League
A Community Where Cybersecurity Is a Passion

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NCL Fall 2021 Team Game Scouting Report

Dear Luke Leveque (Team "UofL Cyber Defense Team"),

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/U6T6UUBTLB5J

Based on the the performance detailed in this NCL Scouting Report, you have earned **9 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 Team 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

NATIONAL CYBER LEAGUE SCORE CARD

NCL 2021 FALL TEAM GAME

NATIONAL RANK
131ST PLACE OUT OF 3910

PERCENTILE
97TH

YOUR TOP CATEGORIES

FORENSICS	ENUMERATION & EXPLOITATION	CRYPTOGRAPHY
100TH PERCENTILE	100TH PERCENTILE	98TH PERCENTILE

82.8%
ACCURACY

Average: 62.4%

cyberskyline.com/report
ID: U6T6UUBTLB5J

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NCL Fall 2021 Team Game

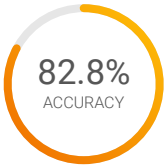
The NCL Team Game is designed for student players nationwide to compete in realtime in the categories listed below. The Team Game promotes camaraderie and evaluates the collective technical cybersecurity skills of the team members.

131 ST PLACE OUT OF 3910
NATIONAL RANK

97th National Percentile

2090 POINTS OUT OF 3000
PERFORMANCE SCORE

Average: 1052.4 Points



Average: 62.4%

Average: 42.9%

Cryptography

300 POINTS OUT OF 300

77.8% ACCURACY

COMPLETION: 100.0%

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

Enumeration & Exploitation

320 POINTS OUT OF 320

100.0% ACCURACY

COMPLETION: 100.0%

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

Forensics

310 POINTS OUT OF 310

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

110 POINTS OUT OF 320

90.0% ACCURACY

COMPLETION: 56.3%

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

215 POINTS OUT OF 360

94.7% ACCURACY

COMPLETION: 72.0%

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

Open Source Intelligence

305 POINTS OUT OF 310

68.8% 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

140 POINTS OUT OF 350

100.0% ACCURACY

COMPLETION: 54.2%

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

Scanning & Reconnaissance

170 POINTS OUT OF 310

71.4% ACCURACY

COMPLETION: 66.7%

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

Web Application Exploitation

120 POINTS OUT OF 320

50.0% ACCURACY

COMPLETION: 50.0%

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.

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Cryptography Module

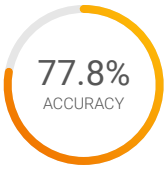
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

81 ST PLACE OUT OF **3910**
NATIONAL RANK

98th National Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 132.4 Points



Average: 84.8%

Average: 58.5%

Security Control Assessor
Secure Software Assessor
Exploitation Analyst
Cyber Operator
Security Architect

Decoding 1 (Easy)

30 POINTS OUT OF 30

100.0% ACCURACY

COMPLETION: 100.0%

Identify the type of base encoding used and decode the data

Decoding 2 (Easy)

20 POINTS OUT OF 20

100.0% ACCURACY

COMPLETION: 100.0%

Identify the cipher scheme used and decrypt the data

Decoding 3 (Medium)

20 POINTS OUT OF 20

100.0% ACCURACY

COMPLETION: 100.0%

Identify the cipher scheme used and decrypt the data

Emojis (Medium)

50 POINTS OUT OF 50

55.6% ACCURACY

COMPLETION: 100.0%

Identify how emojis can be used to hide and store IP addresses

Mixtape (Medium)

60 POINTS OUT OF 60

100.0% ACCURACY

COMPLETION: 100.0%

Identify the technique used to hide data in an audio file and extract it

PEM (Hard)

120 POINTS OUT OF 120

100.0% ACCURACY

COMPLETION: 100.0%

Recover a redacted PEM key to its original version by exploiting the redundancies in PEM keys

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Enumeration & Exploitation Module

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

7 TH PLACE OUT OF 3910
NATIONAL RANK

320 POINTS OUT OF 320
PERFORMANCE SCORE

100.0% ACCURACY

100.0% COMPLETION

Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

100th National Percentile

Average: 108.4 Points

Average: 37.3%

Average: 41.5%

Fancy (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Analyze a script source code & reverse engineer its functionality			
Cell (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Analyze a Haxe (Java runtime compatible) program & reverse engineer its functionality			
Moblin (Hard)	120 POINTS OUT OF 120	100.0% ACCURACY	COMPLETION: 100.0%
Decompile and analyze a C++ binary file for ARM & reverse engineer its functionality			

Forensics Module

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

6 TH PLACE OUT OF 3910
NATIONAL RANK

310 POINTS OUT OF 310
PERFORMANCE SCORE

100.0% ACCURACY

100.0% COMPLETION

Cyber Defense Forensics Analyst
Cyber Crime Investigator
Cyber Defense Incident Responder
Cyber Defense Analyst

100th National Percentile

Average: 139.8 Points

Average: 46.2%

Average: 43.3%

File Recovery (Easy)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Recover lost files from a NTFS filesystem			
RAID (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Recover data from a damaged RAID 5 disk array			
Game Data (Hard)	110 POINTS OUT OF 110	100.0% ACCURACY	COMPLETION: 100.0%
Analyze and carve the binary save data from a Game Boy videogame			

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Log Analysis Module

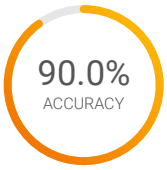
Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.

391 ST PLACE OUT OF 3910
NATIONAL RANK

90th National Percentile

110 POINTS OUT OF 320
PERFORMANCE SCORE

Average: 144.3 Points



Average: 54.9%

Average: 55.9%

Cyber Defense Analyst
Systems Security Analyst
All-Source Analyst
Cyber Defense Forensics Analyst
Data Analyst

Backup (Easy)	60 POINTS OUT OF 100	85.7% ACCURACY	COMPLETION: 75.0%
Analyze a SQL backup file to identify trends & locate sensitive information			
Toasty (Medium)	10 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 20.0%
Parse the log file to recreate the sequence events & identify what happened			
IOT Sensors (Hard)	40 POINTS OUT OF 120	100.0% ACCURACY	COMPLETION: 66.7%

Network Traffic Analysis Module

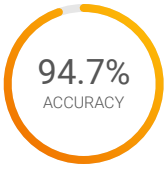
Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.

210 TH PLACE OUT OF 3910
NATIONAL RANK

95th National Percentile

215 POINTS OUT OF 360
PERFORMANCE SCORE

Average: 173.7 Points



Average: 64.6%

Average: 52.2%

Cyber Defense Analyst
All-Source Analyst
Cyber Defense Incident Responder
Target Network Analyst
Cyber Operator

Scanning Activity (Easy)	80 POINTS OUT OF 80	83.3% ACCURACY	COMPLETION: 100.0%
Analyze a capture of SMTP traffic to identify access IPs and user credentials			
Cracking (Medium)	35 POINTS OUT OF 70	100.0% ACCURACY	COMPLETION: 75.0%
Analyze and identify WiFi network metadata and crack the WiFi password			
Jackbox (Medium)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Analyze the HAR capture of websocket traffic of a video game			
Remote Control (Hard)	0 POINTS OUT OF 110	0.0% ACCURACY	COMPLETION: 0.0%
Identify the protocol used for sending IR over IP and perform custom dissection on the network data fields			

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Open Source Intelligence Module

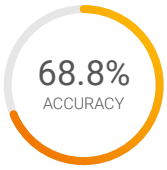
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

194 TH PLACE OUT OF 3910
NATIONAL RANK

96th National Percentile

305 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 212.7 Points



Average: 69.1%

Average: 77.1%

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

Rules of Conduct (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Router Spec (Easy) Identify hardware specifications of a router device	80 POINTS OUT OF 80	100.0% ACCURACY	COMPLETION: 100.0%
Vessels Tracking (Easy) Identify & locate a naval vessel using public data sources	70 POINTS OUT OF 70	83.3% ACCURACY	COMPLETION: 100.0%
Shopping List (Medium) Find patterns in a set of item numbers to locate the target retailer	40 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Satellite Tracking (Hard) Calculate or look up the orbit of a weather satellite	90 POINTS OUT OF 90	30.8% ACCURACY	COMPLETION: 100.0%

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Password Cracking Module

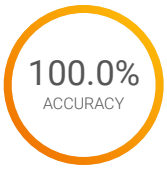
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

259 TH PLACE OUT OF 3910
NATIONAL RANK

94th National Percentile

140 POINTS OUT OF 350
PERFORMANCE SCORE

Average: 128.5 Points



Average: 88.2%

Average: 43.3%

Cyber Operator
Exploitation Analyst
Systems Security Analyst
Cyber Defense Incident Responder
Cyber Crime Investigator

Cracking 1 (Easy) Crack MD5 password hashes	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 2 (Easy) Crack Windows NTLM password hashes	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 3 (Medium) Identify patterns in the passwords and utilize a non-standard wordlist	0 POINTS OUT OF 45	0.0% ACCURACY	COMPLETION: 0.0%
Cracking 4 (Hard) Build a wordlist to crack passwords following a specific pattern	0 POINTS OUT OF 95	0.0% ACCURACY	COMPLETION: 0.0%
Cracking 5 (Hard) Build a wordlist to crack passwords not found in common wordlists	30 POINTS OUT OF 80	100.0% ACCURACY	COMPLETION: 60.0%
PDF (Medium) Crack the password of a PDF file	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Kali Linux (Hard) Crack the new yescrypt password hashes included in Kali Linux	20 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 66.7%

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Scanning & Reconnaissance Module

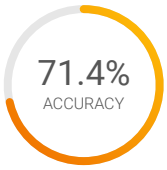
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

109 TH PLACE OUT OF 3910
NATIONAL RANK

98th National Percentile

170 POINTS OUT OF 310
PERFORMANCE SCORE

Average: 95.0 Points



Average: 59.5%

Average: 36.5%

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

Treasure Hunt (Easy)

60 POINTS OUT OF 90

100.0% ACCURACY

COMPLETION: 80.0%

Perform a directory scan and identify hidden files on a remote HTTP server

DNS (Medium)

0 POINTS OUT OF 110

0.0% ACCURACY

COMPLETION: 0.0%

Perform a targeted service scan of a DNS server to identify the domain names that are blocked

Database (Hard)

110 POINTS OUT OF 110

100.0% ACCURACY

COMPLETION: 100.0%

Perform a scan of a neo4j graph database server to identify the records stored on the database

Web Application Exploitation Module

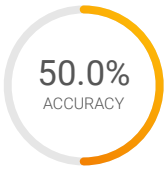
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

138 TH PLACE OUT OF 3910
NATIONAL RANK

97th National Percentile

120 POINTS OUT OF 320
PERFORMANCE SCORE

Average: 104.0 Points



Average: 55.6%

Average: 35.8%

Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

Hyperdash (Easy)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

Analyze source code on a web page and exploit local authentication measures

Tom's Login (Medium)

0 POINTS OUT OF 100

0.0% ACCURACY

COMPLETION: 0.0%

Perform online password cracking by exploiting noSQL database querying vulnerabilities

Shipping (Hard)

20 POINTS OUT OF 120

25.0% ACCURACY

COMPLETION: 50.0%

Exploit the web server to exploit an object deserialization vulnerability in order to achieve arbitrary remote code execution