Ethan Brinks
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NCL Spring 2023 Team Game Scouting Report

Dear Ethan Brinks (Team "RedTeam@MTU"),

Thank you for participating in the National Cyber League (NCL) 2023 Spring 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 2023 Spring Season had 7,820 students/players and 533 faculty/coaches from more than 450 two- and four-year schools & 250 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from March 31 through April 2. The Team Game CTF event took place from April 14 through April 16. The games were conducted in real-time for students across the country. You were in the Experienced Students Bracket, consisting of students enrolled in advanced degrees or hold extensive industry working experience.

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/K7PH1NAXHE6G

Congratulations for your participation in the NCL 2023 Spring Team Game! We hope you will continue to develop your knowledge and skills and make meaningful contributions as part of the Information Security workforce!

Dr. David Zeichick
NCL Commissioner

POWERED BY CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

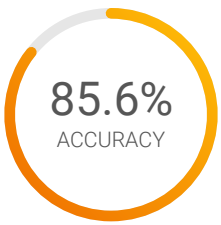
NCL 2023 SPRING TEAM GAME

EXPERIENCED STUDENTS RANK
17TH PLACE OUT OF 316

PERCENTILE
95TH

YOUR TOP CATEGORIES

FORENSICS	ENUMERATION & EXPLOITATION	CRYPTOGRAPHY
96TH PERCENTILE	96TH PERCENTILE	96TH PERCENTILE



Average: 73.1%

cyberskyline.com/report
ID: K7PH1NAXHE6G

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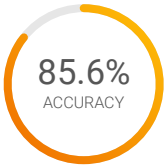
NCL Spring 2023 Team Game

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.

17 TH PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

2500 POINTS OUT OF 3000
PERFORMANCE SCORE

95th Experienced Students Percentile



Average: 1508.8 Points

Average: 73.1%

Average: 60.3%

Cryptography

355 POINTS OUT OF 355

92.3% ACCURACY

COMPLETION: 100.0%

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

Enumeration & Exploitation

200 POINTS OUT OF 300

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

300 POINTS OUT OF 300

74.1% ACCURACY

COMPLETION: 100.0%

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

265 POINTS OUT OF 365

73.7% ACCURACY

COMPLETION: 82.4%

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

Open Source Intelligence

350 POINTS OUT OF 350

86.7% 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

210 POINTS OUT OF 330

87.5% ACCURACY

COMPLETION: 82.4%

Try your hand at cracking these passwords.

Scanning & Reconnaissance

300 POINTS OUT OF 300

100.0% ACCURACY

COMPLETION: 100.0%

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 300

100.0% 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

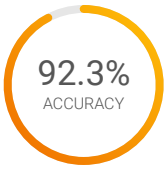
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

15 TH PLACE OUT OF **316**
EXPERIENCED STUDENTS RANK

96th Experienced Students Percentile

355 POINTS OUT OF 355
PERFORMANCE SCORE

Average: 189.5 Points



Average: 75.0%

Average: 68.6%

TOP NICE WORKROLES
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%

Obtain plaintext from messages encoded with common number bases

Decoding 2 (Easy)

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

Analyze and obtain the plaintext for a message encrypted with a shift cipher

Decoding 3 (Easy)

30 POINTS OUT OF 30
50.0% ACCURACY
COMPLETION: 100.0%

Obtain the plaintext of a message using a keypad cipher

Decoding 4 (Medium)

50 POINTS OUT OF 50
100.0% ACCURACY
COMPLETION: 100.0%

Decrypt an AES encrypted message with a known password

PGP (Medium)

50 POINTS OUT OF 50
100.0% ACCURACY
COMPLETION: 100.0%

Decrypt a PGP message and encrypt a PGP message using provided keys

Beep Boop (Medium)

65 POINTS OUT OF 65
100.0% ACCURACY
COMPLETION: 100.0%

Analyze an audio file and decode a message that is encoded with dual-tone multi-frequency signaling

AutoCrypt (Hard)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Analyze a cryptographic scheme and find the vulnerability in an autokey cipher to decrypt the message

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Enumeration & Exploitation Module

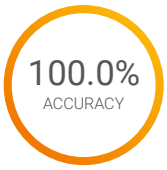
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.

15 TH PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

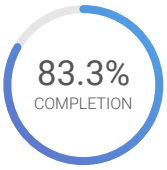
96th Experienced Students Percentile

200 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 119.3 Points



Average: 79.8%



Average: 61.7%

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

Shinny Stone (Easy)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Analyze Ruby source code to decrypt a message that was encrypted using AES

Vault (Medium)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Extract and analyze a compiled Python file from a macOS mach-o binary

Crypto Coincidence (Hard)

0 POINTS OUT OF 100
0.0% ACCURACY
COMPLETION: 0.0%

Analyze a compiled C binary and bypass its custom encryption and packing

Forensics Module

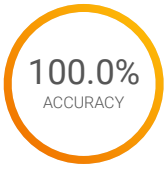
Utilize the proper tools and techniques to analyze, process, recover, and/or investigate digital evidence in a computer-related incident.

13 TH PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

96th Experienced Students Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 163.3 Points



Average: 76.0%

Average: 57.4%

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

Stacked (Easy)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Find and extract hidden files within an image using tools like binwalk

Hidden (Medium)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Extract hidden information from a macOS .DS_STORE file

Memory (Hard)

100 POINTS OUT OF 100
100.0% ACCURACY
COMPLETION: 100.0%

Analyze a Linux memory dump using tools like Volatility to extract encryption keys from a Vim buffer and decrypt an in-memory encrypted file

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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.

34 TH PLACE OUT OF **316**
EXPERIENCED STUDENTS RANK

90th Experienced Students Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 205.4 Points

74.1% ACCURACY

Average: 71.6%

100.0% COMPLETION

Average: 73.8%

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

PGP (Easy)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

Analyze clear-signed documents to verify their authenticity using PGP keys

Iptables (Medium)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

Analyze a iptables log file to identify network traffic patterns

Flight Record (Hard)

100 POINTS OUT OF 100

53.3% ACCURACY

COMPLETION: 100.0%

Parse a binary encoded drone flight record file and extract its fields

Network Traffic Analysis Module

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

30 TH PLACE OUT OF **316**
EXPERIENCED STUDENTS RANK

91st Experienced Students Percentile

265 POINTS OUT OF 365
PERFORMANCE SCORE

Average: 212.9 Points

73.7% ACCURACY

Average: 57.9%

82.4% COMPLETION

Average: 66.4%

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

Attack (Easy)

100 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 100.0%

Analyze a network packet capture to identify an ARP spoofing attack

Chunked (Easy)

65 POINTS OUT OF 65

75.0% ACCURACY

COMPLETION: 100.0%

Analyze a wireless network packet capture to extract information from the broadcast packets

Lighting (Medium)

80 POINTS OUT OF 100

55.6% ACCURACY

COMPLETION: 83.3%

Analyze a network packet capture to identify the IOT protocol and decode its communications

Covert Exfiltration (Hard)

20 POINTS OUT OF 100

100.0% ACCURACY

COMPLETION: 33.3%

Reassemble a multi-part HTTP file download from a network packet capture

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Open Source Intelligence Module

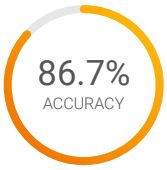
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

44 TH PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

350 POINTS OUT OF 350
PERFORMANCE SCORE

87th Experienced Students Percentile

Average: 288.1 Points



Average: 77.3%

Average: 89.7%

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

Rules of Conduct (Easy) Introductory challenge on acceptable conduct during NCL	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Network Info (Easy) Extract WiFi network information out of a QR code	50 POINTS OUT OF 50	100.0% ACCURACY	COMPLETION: 100.0%
Message in Stone (Medium) Identify the ancient esoteric alphabet used to hide a secret message	75 POINTS OUT OF 75	66.7% ACCURACY	COMPLETION: 100.0%
Restaurant WiFi (Medium) Identify the guest WiFi password using openly available information	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Vantage Point (Hard) Geolocate a photo without GPS metadata	100 POINTS OUT OF 100	66.7% ACCURACY	COMPLETION: 100.0%

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Password Cracking Module

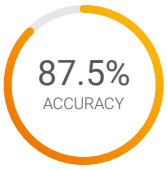
Try your hand at cracking these passwords.

69 TH PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

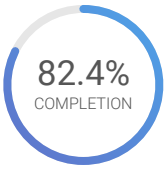
79th Experienced Students Percentile

210 POINTS OUT OF 330
PERFORMANCE SCORE

Average: 162.2 Points



Average: 93.6%



Average: 64.2%

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

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

60.0% ACCURACY

COMPLETION: 100.0%

Crack Windows NTLM password hashes using rainbow tables

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)

75 POINTS OUT OF 75

100.0% ACCURACY

COMPLETION: 100.0%

Crack salted MD5 password hashes

Cracking 5 (Hard)

30 POINTS OUT OF 150

100.0% ACCURACY

COMPLETION: 40.0%

Build a wordlist to crack salted passwords not found in common wordlists

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Scanning & Reconnaissance Module

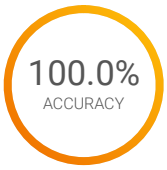
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

23 RD PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

93rd Experienced Students Percentile

300 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 204.3 Points



Average: 95.7%

Average: 69.7%

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

Docker (Easy) Extract metadata information from a Docker container image	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Call to Action (Medium) Scan and extract information data from a Redis database	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
Database (Hard) Scan and extract information data from a MongoDB database	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%

Web Application Exploitation Module

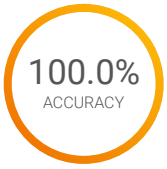
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

42 ND PLACE OUT OF 316
EXPERIENCED STUDENTS RANK

87th Experienced Students Percentile

120 POINTS OUT OF 300
PERFORMANCE SCORE

Average: 83.8 Points



Average: 77.8%

Average: 37.0%

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

Never Winter Bank (Easy) Exploit a bug in the parseInt function of older JavaScript web runtimes	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%
WebAuthn (Medium) Exploit an improperly configured WebAuthn login scheme	20 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 50.0%
File Server v2 (Hard) Exploit a race condition to download a restricted file during server operations	0 POINTS OUT OF 100	0.0% ACCURACY	COMPLETION: 0.0%