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CYBER SKYLINE

The National Cyber League
A Community Where Cybersecurity Is a Passion

Jacob Crowder
jcrowde7@my.chemeketa.edu

NCL Spring 2022 Individual Game Scouting Report

Dear Jacob Crowder,

Thank you for participating in the National Cyber League (NCL) 2022 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 2022 Spring Season had 6,610 students/players and 467 faculty/coaches from more than 500 two- and four-year schools & 80 high schools across all 50 U.S. states registered to play. The Individual Game Capture the Flag (CTF) event took place from April 8 through April 10. The Team Game CTF event took place from April 22 through April 24. 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/AC24WF3G0P84

Congratulations for your participation in the NCL 2022 Spring 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



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CYBER SKYLINE

NATIONAL CYBER LEAGUE SCORE CARD

NCL 2022 SPRING INDIVIDUAL GAME

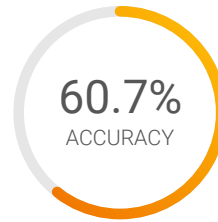
YOUR TOP CATEGORIES

ENUMERATION &
EXPLOITATION
91ST PERCENTILE

WEB APPLICATION
EXPLOITATION
87TH PERCENTILE

SCANNING &
RECONNAISSANCE
86TH PERCENTILE

NATIONAL RANK
1063RD PLACE
OUT OF 6010
PERCENTILE
83RD



cyberskyline.com/report/AC24WF3G0P84

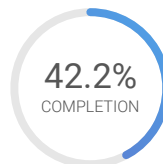
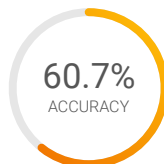


NCL Spring 2022 Individual Game

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.

1063 RD PLACE
OUT OF 6010
NATIONAL RANK

835 POINTS
OUT OF 3000
PERFORMANCE SCORE



83rd National
Percentile

Average: 730.1 Points

Average: 65.7%

Average: 33.5%

Cryptography

90 POINTS
OUT OF 345

85.7%
ACCURACY

COMPLETION: **42.9%**

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

Enumeration & Exploitation

100 POINTS
OUT OF 320

57.1%
ACCURACY

COMPLETION: **44.4%**

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

Forensics

30 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **25.0%**

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

Log Analysis

50 POINTS
OUT OF 340

17.6%
ACCURACY

COMPLETION: **17.6%**

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

90 POINTS
OUT OF 360

47.1%
ACCURACY

COMPLETION: **38.1%**

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

Open Source Intelligence

200 POINTS
OUT OF 300

66.7%
ACCURACY

COMPLETION: **80.0%**

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

120 POINTS
OUT OF 310

100.0%
ACCURACY

COMPLETION: **57.1%**

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

Scanning & Reconnaissance

25 POINTS
OUT OF 300

100.0%
ACCURACY

COMPLETION: **21.4%**

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

Web Application Exploitation

30 POINTS
OUT OF 325

60.0%
ACCURACY

COMPLETION: **37.5%**

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

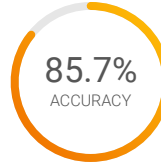
Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.

1751 ST PLACE
OUT OF 6010
NATIONAL RANK

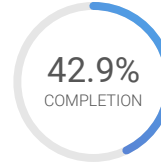
90 POINTS
OUT OF 345
PERFORMANCE SCORE

71st National
Percentile

Average: 111.7 Points



Average: 85.3%



Average: 50.1%

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%**

Identify the type of base encoding used and decode the data

Decoding 2 (Easy)

25 POINTS
OUT OF 25

100.0%
ACCURACY

COMPLETION: **100.0%**

Identify the encoding scheme used and decode the data

Decoding 3 (Medium)

35 POINTS
OUT OF 35

66.7%
ACCURACY

COMPLETION: **100.0%**

Identify the encoding scheme used and decode the data

Decoding 4 (Medium)

0 POINTS
OUT OF 40

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the cipher scheme used and decrypt the data

Decoding 5 (Medium)

0 POINTS
OUT OF 40

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the communication scheme used and decode the message

Decoding 6 (Hard)

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the communication scheme used and decode the message

Stego 1 (Easy)

0 POINTS
OUT OF 35

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the steganography technique used and extract the hidden data

Stego 2 (Medium)

0 POINTS
OUT OF 40

0.0%
ACCURACY

COMPLETION: **0.0%**

Identify the steganography technique used and extract the hidden data





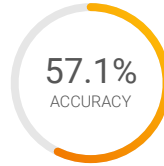
Enumeration & Exploitation Module

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

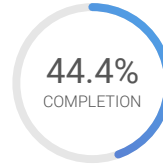
584 TH PLACE
OUT OF 6010
NATIONAL RANK

100 POINTS
OUT OF 320
PERFORMANCE SCORE

Average: 83.8 Points



Average: 60.7%



Average: 36.8%

TOP NICE WORKROLES

Cyber Operator
Target Developer
Exploitation Analyst
Software Developer
Systems Security Analyst

91 st National
Percentile

Validator (Easy)

Decompile and analyze Java bytecode

100 POINTS
OUT OF 100

57.1%
ACCURACY

COMPLETION: 100.0%

Blocky (Medium)

Disassemble and analyze a malicious Chrome browser extension

0 POINTS
OUT OF 110

0.0%
ACCURACY

COMPLETION: 0.0%

Exploit (Hard)

Analyze a remote Linux server for vulnerabilities and demonstrate proof of concept exploit

0 POINTS
OUT OF 110

0.0%
ACCURACY

COMPLETION: 0.0%

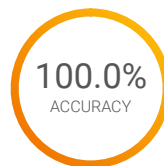
Forensics Module

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

1054 TH PLACE
OUT OF 6010
NATIONAL RANK

30 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 70.1 Points



Average: 57.4%



Average: 37.6%

TOP NICE WORKROLES

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

83 rd National
Percentile

Archived (Easy)

Extract hidden metadata information from a tar archive file

30 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: 50.0%

Puzzle (Medium)

Identify overlapping byte segments to reconstruct a multi-part file

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: 0.0%

Hacker Flyer (Hard)

Extract sensitive data from a Windows memory dump

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: 0.0%





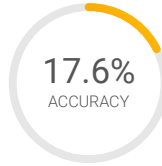
Log Analysis Module

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

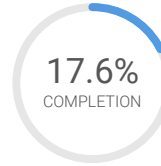
1379 TH PLACE
OUT OF 6010
NATIONAL RANK

50 POINTS
OUT OF 340
PERFORMANCE SCORE

Average: 122.7 Points



Average: 42.8%



Average: 41.3%

TOP NICE WORKROLES

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

78th National
Percentile

IIS (Easy)

50 POINTS
OUT OF 110

21.4%
ACCURACY

COMPLETION: **50.0%**

Analyze a Windows IIS web server log to identify attacker scanning activity

Devices (Medium)

0 POINTS
OUT OF 110

0.0%
ACCURACY

COMPLETION: **0.0%**

Analyze an IOT sensors log to identify anomalous behavior

Email (Hard)

0 POINTS
OUT OF 120

0.0%
ACCURACY

COMPLETION: **0.0%**

Analyze email logs to identify phishing attempts and suspicious email senders

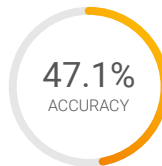
Network Traffic Analysis Module

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

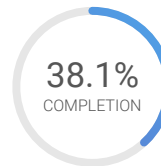
1027 TH PLACE
OUT OF 6010
NATIONAL RANK

90 POINTS
OUT OF 360
PERFORMANCE SCORE

Average: 102.3 Points



Average: 52.5%



Average: 37.5%

TOP NICE WORKROLES

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

Transfer (Easy)

55 POINTS
OUT OF 90

50.0%
ACCURACY

COMPLETION: **71.4%**

Extract sensitive information from a FTP packet capture

WiFi Cracking (Medium)

25 POINTS
OUT OF 70

40.0%
ACCURACY

COMPLETION: **40.0%**

Identify vulnerable WiFi encryption scheme and crack the WiFi password

Kryptonite (Medium)

0 POINTS
OUT OF 80

0.0%
ACCURACY

COMPLETION: **0.0%**

Decrypt and analyze an intercepted TLS packet capture

AirKeys (Hard)

10 POINTS
OUT OF 120

50.0%
ACCURACY

COMPLETION: **20.0%**

Analyze Bluetooth keyboard connection and reconstruct keystrokes to extract credential information





Open Source Intelligence Module

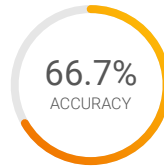
Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.

1722 ND PLACE
OUT OF 6010
NATIONAL RANK

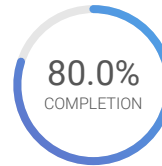
200 POINTS
OUT OF 300
PERFORMANCE SCORE

72nd National
Percentile

Average: 187.7 Points



Average: 71.0%



Average: 77.4%

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

15 POINTS
OUT OF 15

100.0%
ACCURACY

COMPLETION: **100.0%**

Whois (Easy)

Explore whois registration information on IP addresses

60 POINTS
OUT OF 60

50.0%
ACCURACY

COMPLETION: **100.0%**

Filings (Easy)

Identify common regulatory filings required in the cybersecurity industry

50 POINTS
OUT OF 50

60.0%
ACCURACY

COMPLETION: **100.0%**

Tor (Medium)

Identify metadata and affiliation information about Tor relay nodes

75 POINTS
OUT OF 75

75.0%
ACCURACY

COMPLETION: **100.0%**

Caller ID (Hard)

Geolocate an individual using cellular tower identification number

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**





Password Cracking Module

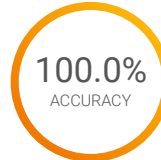
Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.

1020 TH PLACE
OUT OF 6010
NATIONAL RANK

120 POINTS
OUT OF 310
PERFORMANCE SCORE

84th National
Percentile

Average: 108.5 Points



Average: 88.9%



Average: 48.4%

TOP NICE WORKROLES

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

Hashing (Easy)

Generate password hashes for MD5, SHA1, and SHA256

15 POINTS
OUT OF 15

100.0%
ACCURACY

COMPLETION: **100.0%**

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)

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

45 POINTS
OUT OF 45

100.0%
ACCURACY

COMPLETION: **100.0%**

Cracking 4 (Hard)

Build a wordlist to crack passwords not found in common wordlists

0 POINTS
OUT OF 145

0.0%
ACCURACY

COMPLETION: **0.0%**

PDF (Medium)

Crack the password of a PDF document file

0 POINTS
OUT OF 45

0.0%
ACCURACY

COMPLETION: **0.0%**





Scanning & Reconnaissance Module

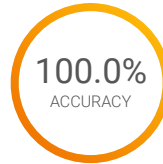
Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.

853 RD PLACE
OUT OF 6010
NATIONAL RANK

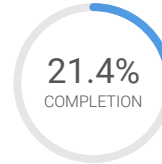
86th National
Percentile

25 POINTS
OUT OF 300
PERFORMANCE SCORE

Average: 95.2 Points



Average: 62.3%



Average: 30.7%

TOP NICE WORKROLES

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

FTP Scan (Easy)

Scan a FTP server to enumerate its contents and possible vulnerabilities

25 POINTS
OUT OF 100

100.0%
ACCURACY

COMPLETION: **75.0%**

Disclosure (Medium)

Identify server configuration and enumerate remote web server paths

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Castle (Hard)

Scan and analyze the results from a LDAP server

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

Web Application Exploitation Module

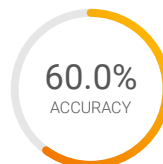
Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.

839 TH PLACE
OUT OF 6010
NATIONAL RANK

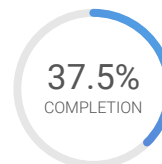
87th National
Percentile

30 POINTS
OUT OF 325
PERFORMANCE SCORE

Average: 53.3 Points



Average: 52.0%



Average: 33.3%

TOP NICE WORKROLES

Cyber Operator
Software Developer
Exploitation Analyst
Systems Security Analyst
Database Administrator

Wordly (Easy)

Exploit a popular game app by analyzing the partial logic in the browser side JavaScript code

30 POINTS
OUT OF 100

60.0%
ACCURACY

COMPLETION: **75.0%**

Cookie Game (Medium)

Identify and exploit hidden backdoor functionality to gain access to the server

0 POINTS
OUT OF 100

0.0%
ACCURACY

COMPLETION: **0.0%**

PayMo (Hard)

Exploit a payment processing app for vulnerabilities that would drain user balance

0 POINTS
OUT OF 125

0.0%
ACCURACY

COMPLETION: **0.0%**

