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NCL Spring 2020 Individual Game Scouting Report

Dear Mark Escott,

Congratulations on a great NCL 2020 Spring Individual Game!

National Cyber League (NCL)

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. The NCL is a next-generation learning and gaming environment using high-fidelity and scenario-based challenges from Cyber Skyline. The challenges are designed around industry recognized and performance-based exam objectives to further develop student skills. Learn more about the NCL at www.nationalcyberleague.org. If you have any questions regarding the information in this report please inquire at info@nationalcyberleague.org.

NCL 2020 Spring Season

The NCL 2020 Spring Season was designed to develop and validate player knowledge and skills in preparation for further learning, career readiness, industry certifications, and other cybersecurity competitions. Hosted challenges in the NCL Gymnasium were made available to all players and coaches and aligned to the games. The games were designed around performance-based exam objectives of the CompTIA Security+™ certification and the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework published by the National Institute of Standards and Technology (NIST).

The NCL 2020 Spring Season began with the Preseason round to group players into one of three competition brackets based on skill level: Gold (top 15% of all players nationally - 665 players), Silver (the next 35% of all players nationally - 1540 players) or Bronze (the next 50% of all players nationally - 2193 players). Players who did not participate in the Preseason were not bracketed or ranked. This made the Individual Game more engaging by grouping players with similar knowledge and skill levels.

At the beginning of the NCL 2020 Spring Season, 5900 students/players and 415 faculty/coaches from more than 460 two- and four-year schools across all 50 U.S. states registered to play.

The Individual Game Capture the Flag (CTF) event took place from April 3 through April 5. The Team Game CTF event took place from April 17 through April 19. The games were conducted in real-time for students across the country.

The NCL 2020 Spring Season was powered by Cyber Skyline's cloud-based skills evaluation platform. Cyber Skyline hosted the scenario-driven cybersecurity challenges for all players to compete and track their progress in real-time.

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

Thank you for your participation in the NCL 2020 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!

Dr. Dan Manson
NCL Commissioner

Mark Escott
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NCL Scouting Report

What follows is a customized NCL Scouting Report of your performance in the NCL 2020 Spring Individual Game. We hope you find it to be valuable in both confirming your skills and identifying areas for improvement. In addition, the NCL Scouting Report can be used as part of any job application, as it provides an external validation of skills as demonstrated in competitive gameplay based on industry-recognized certification exam and framework objectives.

The following definitions apply to your performance across a range of cybersecurity scenarios

- **National Rank:** overall place with respect to all players, across all Brackets
- **Bracket Rank:** overall place within the Bracket
- **Performance Score:** total points earned; the higher the score, the higher the ranking
- **Accuracy:** percentage of flag submissions that were correct (total flag captures divided by total flag attempts).
- **Completion:** percentage of possible flags submitted (total flag captures divided by total possible flags).

The following are the categories of cybersecurity scenarios that you were evaluated against:

1. Cryptography
   Identify techniques used to encrypt or obfuscate messages and leverage tools to extract the plaintext.
2. Enumeration and Exploitation
   Identify actionable exploits and vulnerabilities and use them to bypass the security measures in code and compiled binaries.
3. Log Analysis
   Utilize the proper tools and techniques to establish a baseline for normal operation and identify malicious activities using log files from various services.
4. Network Traffic Analysis
   Identify malicious and benign network traffic to demonstrate an understanding of potential security breaches.
5. Open Source Intelligence
   Utilize publicly available information such as search engines, public repositories, social media, and more to gain in-depth knowledge on a topic or target.
6. Password Cracking
   Identify types of password hashes and apply various techniques to efficiently determine plaintext passwords.
7. Scanning
   Identify and use the proper tools to gain intelligence about a target including its services and potential vulnerabilities.
8. Web Application Exploitation
   Identify actionable exploits and vulnerabilities and use them to bypass the security measures in online services.
9. Wireless Access Exploitation
   Identify the security posture of wireless networks from network captures.

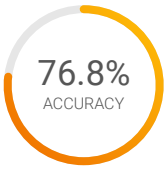
NCL Spring 2020 Preseason

132 ND PLACE OUT OF 5379
NATIONAL RANK

98th
National Percentile

1565 POINTS OUT OF 1760
PERFORMANCE SCORE

Averages
National: 621.6



National: 59.7%

National: 49.0%

Based on Preseason performance, **Mark Escott** was placed into the **Gold Bracket** for the Individual Game.

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NCL Spring 2020 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.

69 TH PLACE OUT OF **5357**
NATIONAL RANK

63 RD PLACE OUT OF **639**
GOLD BRACKET RANK

2405 POINTS OUT OF 3000
PERFORMANCE SCORE

89.7% ACCURACY
National: 65.6%
Gold Bracket: 77.1%

89.7% COMPLETION
National: 37.9%
Gold Bracket: 66.4%

99th
National Percentile

91st
Gold Bracket Percentile

Averages
National: 838.6
Gold Bracket: 1619.5

Cryptography	305 POINTS OUT OF 390	100.0% ACCURACY	COMPLETION: 87.5%
Enumeration and Exploitation	185 POINTS OUT OF 350	87.5% ACCURACY	COMPLETION: 58.3%
Log Analysis	370 POINTS OUT OF 400	76.7% ACCURACY	COMPLETION: 95.8%
Network Traffic Analysis	350 POINTS OUT OF 350	92.0% ACCURACY	COMPLETION: 100.0%
Open Source Intelligence	260 POINTS OUT OF 260	95.5% ACCURACY	COMPLETION: 100.0%
Password Cracking	255 POINTS OUT OF 345	94.4% ACCURACY	COMPLETION: 89.5%
Scanning	200 POINTS OUT OF 250	100.0% ACCURACY	COMPLETION: 90.9%
Web Application Exploitation	225 POINTS OUT OF 350	73.3% ACCURACY	COMPLETION: 73.3%
Wireless Access Exploitation	155 POINTS OUT OF 205	100.0% ACCURACY	COMPLETION: 92.3%

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.

322 ND PLACE OUT OF 5357
NATIONAL RANK

247 TH PLACE OUT OF 639
GOLD BRACKET RANK

305 POINTS OUT OF 390
PERFORMANCE SCORE

100.0% ACCURACY

87.5% COMPLETION

94th
National Percentile

62nd
Gold Bracket Percentile

Averages
National: 146.8
Gold Bracket: 262.2

National: 79.4%
Gold Bracket: 88.5%

National: 47.6%
Gold Bracket: 75.9%

Decoding 1 (Easy)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 2 (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 3 (Easy)	25 POINTS OUT OF 25	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 4 (Medium)	30 POINTS OUT OF 30	100.0% ACCURACY	COMPLETION: 100.0%
Decoding 5 (Hard)	0 POINTS OUT OF 50	0.0% ACCURACY	COMPLETION: 0.0%
Decoding 6 (Hard)	80 POINTS OUT OF 80	100.0% ACCURACY	COMPLETION: 100.0%
Steg (Easy)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Image (Medium)	15 POINTS OUT OF 50	100.0% ACCURACY	COMPLETION: 50.0%
Docx (Hard)	55 POINTS OUT OF 55	100.0% ACCURACY	COMPLETION: 100.0%

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Enumeration and Exploitation Module

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

90 TH PLACE OUT OF 5357 NATIONAL RANK	78 TH PLACE OUT OF 639 GOLD BRACKET RANK	185 POINTS OUT OF 350 PERFORMANCE SCORE	87.5% ACCURACY	58.3% COMPLETION
99th National Percentile	88th Gold Bracket Percentile	Averages National: 31.9 Gold Bracket: 83.6	National: 57.6% Gold Bracket: 61.4%	National: 17.8% Gold Bracket: 32.1%

Bytes (Easy)	50 POINTS OUT OF 50	100.0% ACCURACY	COMPLETION: 100.0%
Unknown (Medium)	0 POINTS OUT OF 90	0.0% ACCURACY	COMPLETION: 0.0%
Exfiltration (Medium)	90 POINTS OUT OF 90	66.7% ACCURACY	COMPLETION: 100.0%
Rookie Malware (Hard)	45 POINTS OUT OF 120	100.0% ACCURACY	COMPLETION: 75.0%

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.

146 TH PLACE OUT OF 5357 NATIONAL RANK	112 TH PLACE OUT OF 639 GOLD BRACKET RANK	370 POINTS OUT OF 400 PERFORMANCE SCORE	76.7% ACCURACY	95.8% COMPLETION
98th National Percentile	83rd Gold Bracket Percentile	Averages National: 153.8 Gold Bracket: 269.6	National: 50.5% Gold Bracket: 67.3%	National: 42.4% Gold Bracket: 73.0%

Event Logs (Easy)	110 POINTS OUT OF 110	85.7% ACCURACY	COMPLETION: 100.0%
AWS Flow Logs (Medium)	135 POINTS OUT OF 135	66.7% ACCURACY	COMPLETION: 100.0%
Telecommuting (Hard)	125 POINTS OUT OF 155	81.8% ACCURACY	COMPLETION: 90.0%

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Network Traffic Analysis Module

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

48 TH PLACE OUT OF 5357
NATIONAL RANK

43 RD PLACE OUT OF 639
GOLD BRACKET RANK

350 POINTS OUT OF 350
PERFORMANCE SCORE

92.0% ACCURACY

100.0% COMPLETION

100th
National Percentile

94th
Gold Bracket Percentile

Averages
National: 186.4
Gold Bracket: 262.6

National: 64.2%
Gold Bracket: 77.5%

National: 66.6%
Gold Bracket: 86.7%

ARP (Easy)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION: 100.0%
TFTP (Easy)	95 POINTS OUT OF 95	100.0% ACCURACY	COMPLETION: 100.0%
DHCP (Medium)	95 POINTS OUT OF 95	100.0% ACCURACY	COMPLETION: 100.0%
CAN Bus (Hard)	100 POINTS OUT OF 100	60.0% ACCURACY	COMPLETION: 100.0%

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.

101 ST PLACE OUT OF 5357
NATIONAL RANK

69 TH PLACE OUT OF 639
GOLD BRACKET RANK

260 POINTS OUT OF 260
PERFORMANCE SCORE

95.5% ACCURACY

100.0% COMPLETION

99th
National Percentile

90th
Gold Bracket Percentile

Averages
National: 177.2
Gold Bracket: 229.6

National: 69.7%
Gold Bracket: 80.7%

National: 76.3%
Gold Bracket: 92.5%

Rules of Conduct (Easy)	15 POINTS OUT OF 15	100.0% ACCURACY	COMPLETION: 100.0%
WHOIS (Easy)	50 POINTS OUT OF 50	100.0% ACCURACY	COMPLETION: 100.0%
Tax Purposes (Easy)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION: 100.0%
Caucus Report (Medium)	85 POINTS OUT OF 85	87.5% ACCURACY	COMPLETION: 100.0%
Geolocation (Hard)	50 POINTS OUT OF 50	100.0% 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.

138 TH PLACE OUT OF 5357 NATIONAL RANK	100 TH PLACE OUT OF 639 GOLD BRACKET RANK	255 POINTS OUT OF 345 PERFORMANCE SCORE	94.4% ACCURACY	89.5% COMPLETION
98th National Percentile	85th Gold Bracket Percentile	Averages National: 113.4 Gold Bracket: 193.1	National: 88.5% Gold Bracket: 91.3%	National: 43.2% Gold Bracket: 68.9%

Hashing (Easy)	30 POINTS OUT OF 30	75.0% ACCURACY	COMPLETION: 100.0%
Cracking 1 (Easy)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 2 (Easy)	45 POINTS OUT OF 45	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 3 (Medium)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 4 (Hard)	35 POINTS OUT OF 125	100.0% ACCURACY	COMPLETION: 60.0%
Zip (Medium)	40 POINTS OUT OF 40	100.0% ACCURACY	COMPLETION: 100.0%

Scanning Module

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

16 TH PLACE OUT OF 5357 NATIONAL RANK	13 TH PLACE OUT OF 639 GOLD BRACKET RANK	200 POINTS OUT OF 250 PERFORMANCE SCORE	100.0% ACCURACY	90.9% COMPLETION
100th National Percentile	98th Gold Bracket Percentile	Averages National: 75.8 Gold Bracket: 128.7	National: 69.0% Gold Bracket: 85.1%	National: 46.8% Gold Bracket: 69.1%

Git (Easy)	75 POINTS OUT OF 75	100.0% ACCURACY	COMPLETION: 100.0%
Worksmart (Medium)	25 POINTS OUT OF 75	100.0% ACCURACY	COMPLETION: 66.7%
Who's There? (Hard)	100 POINTS OUT OF 100	100.0% ACCURACY	COMPLETION: 100.0%

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Web Application Exploitation Module

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

95 TH PLACE OUT OF 5357
NATIONAL RANK

77 TH PLACE OUT OF 639
GOLD BRACKET RANK

225 POINTS OUT OF 350
PERFORMANCE SCORE

73.3% ACCURACY
National: 65.3%
Gold Bracket: 72.8%

73.3% COMPLETION
National: 32.0%
Gold Bracket: 45.5%

99th
National Percentile

88th
Gold Bracket Percentile

Averages
National: 56.9
Gold Bracket: 103.8

Election Hacking (Easy)	105 POINTS OUT OF 105	100.0% ACCURACY	COMPLETION: 100.0%
MetroGov (Medium)	115 POINTS OUT OF 115	50.0% ACCURACY	COMPLETION: 100.0%
GregsList (Hard)	5 POINTS OUT OF 130	100.0% ACCURACY	COMPLETION: 20.0%

Wireless Access Exploitation Module

Identify the security posture of wireless networks from network captures.

89 TH PLACE OUT OF 5357
NATIONAL RANK

71 ST PLACE OUT OF 639
GOLD BRACKET RANK

155 POINTS OUT OF 205
PERFORMANCE SCORE

100.0% ACCURACY
National: 61.7%
Gold Bracket: 79.2%

92.3% COMPLETION
National: 60.3%
Gold Bracket: 82.7%

99th
National Percentile

89th
Gold Bracket Percentile

Averages
National: 91.4
Gold Bracket: 136.8

Cracking 1 (Easy)	70 POINTS OUT OF 70	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 2 (Medium)	60 POINTS OUT OF 60	100.0% ACCURACY	COMPLETION: 100.0%
Cracking 3 (Hard)	25 POINTS OUT OF 75	100.0% ACCURACY	COMPLETION: 75.0%