NCL 2019 Fall Individual Game Scouting Report

Dear Mark Escott,

Congratulations on a great NCL 2019 Fall 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 2019 Fall Season

The NCL 2019 Fall 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+™ and EC-Council Certified Ethical Hacker (CEH) certifications.

The NCL 2019 Fall 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 - 606 players), Silver (the next 35% of all players nationally - 1,450 players) or Bronze (the next 50% of all players nationally - 2,092 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 2019 Fall Season, 5,759 students/players and 403 faculty/coaches from more than 400 two- and four-year schools across all 50 U.S. states registered to play.

The NCL 2019 Fall 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 the contents of this report, please access:
cyberskyline.com/report/G7EADCNX914A

The Individual Game (formerly Regular Season) Capture the Flag (CTF) event took place from November 1 through November 3. The Team Game (formerly Postseason) CTF event took place from November 15 through November 17. The games were conducted in real-time for students across the country.

NCL Scouting Report

What follows is a customized NCL Scouting Report of your performance in the NCL 2019 Fall 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 performance-based exam objectives.

The following definitions apply to your performance across a range of games, optimized for individuals:

- **Bracket Rank:** overall place within the Bracket
- **National Rank:** overall place with respect to all players, across all Brackets
- **Score:** total combined flag points; the higher the score, the higher the ranking
- **Flag Captures:** the combined number of successful flag captures/submissions
- **Flag Attempts:** the combined number of flags submitted to the Cyber Skyline Platform
- **Accuracy:** percentage of flag submissions that were correct. Formula: Total Flag Captures divided by Total Flag Attempts

NCL Fall 2019 Preseason

102 flags (1,845 points)

On average, players captured 51 flags, 612 points, and had an accuracy of 65.31%.

National Rank	Score	Flag Captures	Flag Attempts	Accuracy
147 / 5,220	1,445	95	155	61.29%

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

NCL Fall 2019 Individual Game

144 flags (3,000 points)

On average, players captured 53 flags, 826 points, and had an accuracy of 66.82%.

Gold Bracket players, on average, captured 90 flags and scored 1,540 points with an accuracy of 73.05%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
117 / 4,149	109 / 606	2,060	116	147	78.91%

Individual Game Competencies

The following tables show the player's rank Nationally and by Bracket, based on the following modules:

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 & Recon**
   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.

Cryptography

13 flags (375 points)

On average, players in this module captured 7 flags and scored 156 points with an accuracy of 86.98%.

Gold Bracket players, on average, captured 10 flags and scored 260 points with an accuracy of 91.55%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
352 / 4,149	250 / 606	290	11	13	84.62%

Enumeration and Exploitation

12 flags (285 points)

On average, players in this module captured 3 flags and scored 45 points with an accuracy of 33.23%.

Gold Bracket players, on average, captured 5 flags and scored 106 points with an accuracy of 47.93%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
255 / 4,149	207 / 606	120	7	13	53.85%

Log Analysis

18 flags (455 points)

On average, players in this module captured 7 flags and scored 149 points with an accuracy of 51.80%.

Gold Bracket players, on average, captured 12 flags and scored 270 points with an accuracy of 62.95%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
81 / 4,149	73 / 606	405	17	24	70.83%

Network Traffic Analysis

19 flags (435 points)

On average, players in this module captured 9 flags and scored 165 points with an accuracy of 60.41%.

Gold Bracket players, on average, captured 13 flags and scored 230 points with an accuracy of 64.72%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
212 / 4,149	147 / 606	250	14	17	82.35%

Open Source Intelligence

23 flags (255 points)

On average, players in this module captured 17 flags and scored 184 points with an accuracy of 75.78%.

Gold Bracket players, on average, captured 22 flags and scored 237 points with an accuracy of 84.16%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
1,389 / 4,149	477 / 606	225	21	24	87.50%

Password Cracking

19 flags (305 points)

On average, players in this module captured 9 flags and scored 113 points with an accuracy of 89.19%.

Gold Bracket players, on average, captured 13 flags and scored 170 points with an accuracy of 92.71%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
252 / 4,149	180 / 606	185	14	14	100.00%

Scanning & Recon

15 flags (250 points)

On average, players in this module captured 5 flags and scored 70 points with an accuracy of 55.96%.

Gold Bracket players, on average, captured 8 flags and scored 109 points with an accuracy of 66.17%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
128 / 4,149	104 / 606	160	11	17	64.71%

Web Application Exploitation

11 flags (335 points)

On average, players in this module captured 2 flags and scored 29 points with an accuracy of 41.05%.

Gold Bracket players, on average, captured 3 flags and scored 58 points with an accuracy of 53.74%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
67 / 4,149	59 / 606	120	7	11	63.64%

Wireless Access Exploitation

13 flags (205 points)

On average, players in this module captured 8 flags and scored 100 points with an accuracy of 63.44%.

Gold Bracket players, on average, captured 11 flags and scored 152 points with an accuracy of 80.19%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
9 / 4,149	9 / 606	205	13	13	100.00%

Thank you for your participation in the NCL 2019 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!

Dr. Dan Manson
NCL Commissioner