NCL 2019 Fall Team Game Scouting Report

Dear Matthew Hier (Team "The Keyloggers"),

Congratulations on a great NCL 2019 Fall Team 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/1576QQ1PT65C

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 Team 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

Based on the performance of the top ranking member in the Individual Game, Matthew Hier's team **"The Keyloggers"** was placed into the **Gold Bracket** for the Team Game.

NCL Fall 2019 Team Game

135 flags (3,000 points)

On average, teams captured 59 flags, 1,068 points, and had an accuracy of 55.32%.

Gold Bracket teams, on average, captured 104 flags and scored 2,059 points with an accuracy of 68.90%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
46 / 689	43 / 103	2,255	114	159	71.70%

Individual Competencies

The following tables show the team'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

11 flags (310 points)

On average, teams in this module captured 6 flags and scored 139 points with an accuracy of 80.62%.

Gold Bracket teams, on average, captured 8 flags and scored 213 points with an accuracy of 87.74%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
103 / 689	63 / 103	210	8	14	57.14%

Enumeration and Exploitation

9 flags (300 points)

On average, teams in this module captured 3 flags and scored 75 points with an accuracy of 47.10%.

Gold Bracket teams, on average, captured 7 flags and scored 191 points with an accuracy of 79.55%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
21 / 689	18 / 103	250	8	8	100.00%

Log Analysis

20 flags (385 points)

On average, teams in this module captured 9 flags and scored 157 points with an accuracy of 38.36%.

Gold Bracket teams, on average, captured 16 flags and scored 298 points with an accuracy of 55.12%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
87 / 689	55 / 103	310	16	35	45.71%

Network Traffic Analysis

23 flags (390 points)

On average, teams in this module captured 9 flags and scored 132 points with an accuracy of 46.36%.

Gold Bracket teams, on average, captured 17 flags and scored 268 points with an accuracy of 58.27%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
17 / 689	15 / 103	375	22	36	61.11%

Open Source Intelligence

14 flags (290 points)

On average, teams in this module captured 10 flags and scored 187 points with an accuracy of 50.46%.

Gold Bracket teams, on average, captured 13 flags and scored 250 points with an accuracy of 60.52%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
23 / 689	15 / 103	290	14	17	82.35%

Password Cracking

19 flags (370 points)

On average, teams in this module captured 11 flags and scored 189 points with an accuracy of 85.90%.

Gold Bracket teams, on average, captured 16 flags and scored 295 points with an accuracy of 97.18%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
83 / 689	54 / 103	310	17	18	94.44%

Scanning & Recon

15 flags (305 points)

On average, teams in this module captured 7 flags and scored 119 points with an accuracy of 75.48%.

Gold Bracket teams, on average, captured 12 flags and scored 226 points with an accuracy of 87.05%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
74 / 689	56 / 103	225	13	14	92.86%

Web Application Exploitation

9 flags (345 points)

On average, teams in this module captured 2 flags and scored 52 points with an accuracy of 49.09%.

Gold Bracket teams, on average, captured 5 flags and scored 123 points with an accuracy of 71.61%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
151 / 689	77 / 103	30	2	3	66.67%

Wireless Access Exploitation

13 flags (205 points)

On average, teams in this module captured 9 flags and scored 112 points with an accuracy of 74.04%.

Gold Bracket teams, on average, captured 12 flags and scored 162 points with an accuracy of 91.72%.

National Rank	Gold Bracket Rank	Score	Flag Captures	Flag Attempts	Accuracy
59 / 689	42 / 103	155	12	12	100.00%

Thank you for your participation in the NCL 2019 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!

Dr. Dan Manson
NCL Commissioner