

# Mason Competitive Cyber

Welcome to MasonCC



# Mason360



- GMU has a new rule where everyone who goes to any event has to register for the event beforehand on Mason360
  - They are doing this primarily to make it easier to trace the spread of COVID-19
- To register for this meeting, you'll have to go to Mason360 and click on "register"
  - You may have to sign in using your Patriotweb credentials
  - There will be a different link for each meeting
- After you register, you'll have to check-in with us once you enter the meeting and show that you've taken the daily COVID health check



# About Our E-Board

- Nihaal Prasad
  - President
- Daniel Getter
  - Vice President
- Tanya Malik
  - Treasurer
- Andy Smith
  - Competitions Officer
- Kaan Turkmen
  - Secretary
- Michael Bailey
  - Supreme Leader



# Name Change?

- You may have noticed that we are listed in Mason360 as “Competitive Cyber at Mason” instead of “Mason Competitive Cyber”
- GMU created a new rule where student orgs can no longer include the name “Mason” at the beginning of their name
  - But we’re allowed to say “at Mason” at the end of our club name.
- We are now officially “Competitive Cyber at Mason,” but we’re still unofficially using the old name “Mason Competitive Cyber”



# Requirements to join MasonCC

- You are a current or past GMU student
- ANY MAJOR
- Both undergraduates and graduate students are welcome
- You are interested in learning about computer security
- Join our slack channel at <https://masoncc.slack.com/signup>
  - Slack is sort of like discord, but more professional
  - We post all of our announcements in slack



# Talk Schedule for Fall 2021

- Wednesdays at 6:00pm in JC Meeting Room B
- Check #announce on slack for the announcebot's meeting announcements
- Meetings are always OPTIONAL
- Talks range from beginner to advanced
  - They are usually divided up into a lecture portion and a hands-on portion
- Anyone can give a talk
  - They don't have to be a part of the club to give a talk
  - Reach out to someone on the e-board if you or someone else would like to schedule a talk
  - We prefer hands-on technical content





# Past Talks

Hackazon and more  
Club Intro/Training CTF Challenges  
Forensics, Complete with Weird CSAW Problems  
Web Exploitation  
backdoorCTF practice arena  
Linux, Scripting, and Regex  
Sam (of Kudu Dynamics) on CSAW CTF 2017 problems  
Cryptography (not simple ciphers)  
Python and Ruby CTF scripting, Regex  
Amazon Web Services EC2  
Rob Shein of PwC on Car Hacking  
Hardware Hacking with Chuck  
Web Exploitation 2  
Basic Linux with Mike  
Shellcode with Chris (caffix)  
Forensics  
Docker: Virtualization for Poor People  
Networking  
Format String with Chris (caffix)  
GRIMM Challenge  
HackTheBox.eu (GET AN INVITE)  
Steganography  
DEP and ASLR Bypass with Chris (caffix)  
Intro. Reverse Engineering  
GRIMM Meeting  
1pwnch - Dirty Magic of Webshell  
Android APK (App) Reversing with Tyler  
Antivirus Evasion  
Attack/Defense with Hands-On  
Best Of Defcon Screening & Bring Food/Snacks  
CC Intro + Scanning & Attacking Hosts (metasploit/nmap)

Profiling & Dissecting a Web App: Recon to Scanning  
Corey Sheldon of Fedora, Ameridea on System Hardening  
Cyber Fusion 2017 Simulation: Problem Sets and Walkthroughs from the Real Event  
Host Based Forensics  
Kirstie Failey (The Crpsis Group): The Incident Response Process  
Love our Logs: Using Splunk to Identify Threats and Pattern  
Paul - CTF Tools CC Uses  
Physical Security, Lockpicking, & RFID  
Power Grid Security with PwC  
Profiling & Dissecting a Web App: Pwning and Footholds  
William Burke IV DHS Red Teaming Talk  
... And more



# What's a CTF?

- These are cybersecurity competitions where you'll have to complete some challenge in order to win a “flag”
  - The flag is usually just a secret string that you type into a website to earn points
- Jeopardy-style CTFs have different categories, such as web, crypto, exploitation, forensics, etc.
  - This is the most popular CTF format
- Most competitions are online, but a few are in-person
- Some CTFs limit the amount of competitors we can send in a team or are invite-only
  - We may have limited seats for the more competitive or intense competitions





# What's a CTF? (Cont.)

- Other styles of competitions exist as well
  - CCDC is a competition where you have to defend a network as it is being attacked by live hackers.
  - HackTheBuilding is a competition where you have to attack a building's computer network.
  - ISTS is a competition where you have to defend your own network while attacking other competitors' networks.
- Job employers LOVE hearing about CTFs
  - In the field of security, it is common for job interviewers to ask, "Tell us about your favorite CTF challenge."



# TCTF

MasonCC TCTF

tctf.competitivecyber.club/challenges#Hidden%20in%20Plain%20Sight-66

Apps Mason360 Drive Mail Cloudflare DNS AWS Hacker Typer

MasonCC TCTF Intro Rules Users Searchboard Challenges Admin Panel Notifications Profile Settings

IT Office Recon  
25

Basic Crypto

Neo  
50

Web

Hidden in Plain Sight  
30

Juggling  
100

Reading the Network Traffic  
100

Trivia

Challenge 30 Solves

## Hidden in Plain Sight

30

<http://sekritskwerl.com:8080/>

Please enter the flag in masoncc{} format

Flag

Submit



# How does MasonCC do competitions?

- Online CTFs
  - Slack
    - Channels for each competition
    - #ctf-watch
  - <https://ctftime.org/event/list/upcoming>
  - Usually over a weekend. Fri-Sun
  - Spend 15min or spend hours
- In-Person Competitions
  - Carpool
  - Occasionally overnight at hotels
  - Slack when we're competing
  - Might not even happen this year due to COVID-19



# Key MasonCC Links

- Website:
  - <https://competitivecyber.club/>
- Slack:
  - <https://masoncc.slack.com/signup>
- Training Content
  - <http://go.gmu.edu/ccbeginners>
  - <http://go.gmu.edu/cctraining>
  - <http://tctf.competitivecyber.club>
  - <https://github.com/MasonCompetitiveCyber/ctf-courses> (Work in progress)



# “Important” Slack Channels

- #announce
  - Major events and announcements for the club
- #ctf-watch
  - If you want to compete in a ctf, drop it here or look around for upcoming competitions
- #enemyfinder
  - Our most active channel for your unpopular opinions
- #scrubs
  - Ask beginner questions without judgment
- #certs/#jobs
  - Ask for all the career advice you want
- #general/#random
  - General-purpose chat channels
- #infosec-news
  - General security news



# Resources For Learning

- <https://overthewire.org/wargames/>
- <https://ctflearn.com/>
- <https://tryhackme.com/>
- <https://www.hackthissite.org/>
- <https://dvwa.co.uk/>
- <https://www.hackthebox.eu/>
- <https://www.vulnhub.com/>
- <https://guyinatuxedo.github.io/>
- <https://microcorruption.com/login>
- <https://go.gmu.edu/securityresources>
- Google
- The people in Slack!





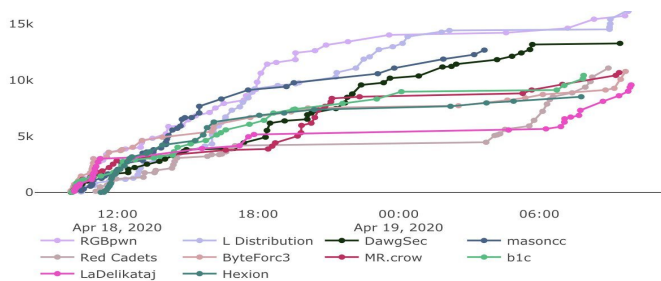
# Wins from 2019/2020



1st Place - MetaCTF @ UVA



2nd Place - MetaCTF @ UVA



Place	Team	Score
1	RGBpwn	16615
2	L Distribution	16415
3	DawgSec	13265
4	masoncc	12665

4th Place - UMDCTF Online



1st Place - CyberFusion @ VMI

# Wins from 2020



HackTheBuilding 2020

Overall			
Students			
Non-Students			
Join a Scoreboard			
#	Overall #	Team	Affiliation
1	4	Seriously Rad Engineers	No affiliation
2	5	Debugmen	battelle/gmu
3	6	GreenHat	Microsoft
4	11	Dads	USA
5	14	noraneco	noraneco
6	18	megadoomer	human
7	19	Sneakers	Not Affiliated
8	21	Strawhacks	Team
9	24	horse	Illinois Wesleyan University
10	27	Flags as a Service	FifthDomain

## 2nd Place - MetaCTF

Place	Team	Score
1	Bat Squad	6300
2	gmu_mcc	5200
3	efiens	5150
4	CYberMouflons	5000
5	EJr	4600
6	pokedora	4050
7	ByteForc3	3650
8	FSOCIETY	2900
9	GS2W	2900
10	OffSecThink	2725

## 2nd Place - BlackHat Spiderlabs CTF

Challenge Points			
#1	Team 24	BONTS	5,840
#2	0x45		5,750
#3	Team 23	Anonymouse	5,465
#4	Team 14	Flag Finders	5,465
#5	R WE NOT CATS?		5,465

1st, 3rd, 5th @ Country2Country CTF 2020

# Upcoming Competitions

- National Cyber League (NCL)
  - Best CTF for beginners!
  - Access to practice environment throughout the semester
  - This is a commitment!
  - Preseason game: Oct 11 - 18
  - Individual game: Oct 22 - 24
  - Team game (up to 7 per team): Nov 5 - Nov 7
  - We will pay for your vouchers
  - Join #ncl-fall-2021



# Upcoming Competitions (cont.)

- Collegiate Penetration Testing Competition (Nov 13, 2021)
  - Advanced
  - Requires you to do a real pentest & submit a pentest report
  - 6 team members + two alternates + a coach
  - Need to submit an RFP response ASAP
  - Join #cptc2021
- Battelle CTF (Sep 3 - 10)
  - Good jeopardy-style CTF for beginners
  - Join #battelle-ctf
  - Battelle has sponsored us and hired people from us in the past



# Upcoming Competitions (Cont.)

- CSAW Quals (Sep 10 - 12)
  - Unlimited team members
  - We'll have one giant GMU team (creds in #csaw2021)
- Hivestorm (Oct 9)
  - Easy blue team competition
  - 4 people per team
  - Four hour window to harden vulnerable machines
  - Haven't made a channel or teams for this yet
- Information Security Talent Search (ISTS)
  - Seriously tough attack/defense competition
  - Have to harden your own network while attacking other networks
  - Make teams in #ists2022
  - Limited seats





# Upcoming Competitions (cont.)

- Collegiate Cyber Defense Competition (CCDC)
  - Intense defense competition
  - Have to manage a network while it is under attack by live hackers
  - Will provide more info around winter break
  - Limited seats
  - Qualifiers: Feb 5 & 12, 2022
  - Regionals: March 17-19, 2022
  - Nationals: April 21-21, 2022
  - We were able to get third place at nationals last spring!
- Keep looking at [#ctf-watch](#) for more updates!





# Hiring From



**REDLattice**



**CACI**

EVER VIGILANT

**BATTELLE**



**FLASHPOINT**

Booz | Allen | Hamilton

**It can be done™**

**MITRE**

**galois**



**CLOUDFLARE**



**CRYPSIS™**

# Questions?



# Sponsors

- We have them
- Heavily vetted (people generally work there)
- Interest comes first, *then* we ask them for money
- Apply for them
  - They're here because they want members



# Proud Sponsors



Thank you to these organizations who give us their support  
**They're hiring and have hired us before**



CACI

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EVER VIGILANT

# COMMENCE HACKING



<https://tctf.competitivecyber.club/>

**Good categories for beginners:**

- **Classic Cryptography**
- **Recon**
- **Trivia**
- **Linux/Scripting**

**Shoutout to TCTF 2021 Spring Winner: UnicodeSnowman**

**Other top players: LordTemplar, 720, U01T, Kage**