



ACEHACKER

---

Write Great Code

---

[acehacker.com](http://acehacker.com)



# ACE HACKER

Learn to write great code through immersive & hands-on classes. Sharpen your skills with programming competitions & hackathons. Connect & Collaborate with fellow coders, founders, and investors.

## COURSES



Ace Hacker **Courses** are crafted to convey the most complex **STEM** concepts through engaging stories. Participate in these stories by engaging your thoughts, emotions, and imagination as you enter the narrative world and react to it. Tinker with the code in every story, push boundaries without fear of failure, build meaningful solutions to tackle real-world problems, and have fun along the way.



## COMPETITIONS



Hack that code. Enhance your skills by participating in sprint **Programming Competitions** or marathon **Hackathons**. Beyond the intellectual growth, the thrill of competition adds an electrifying edge, giving you the chance to showcase your coding finesse and claim well-deserved bragging rights. The skills you hone and the memories you create will serve as lasting assets in your academic and professional pursuits.

## CONFERENCES



Ace Hacker orchestrates **Colloquiums** and **Conferences** serving as a nexus for academicians, scholars, scientists, CXOs, and other luminaries in intellectual pursuits across diverse fields such as Artificial Intelligence, Quantum Computing, Blockchain, Cybersecurity, AR, VR, and Robotics, to name a few, with a mission to foster collaboration and knowledge exchange by bringing together the brightest minds to share their insights and research findings.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## CYBERSECURITY & CYBER WARFARE

The virus Stuxnet was the first **Cyber Warfare** malware that proved that a piece of code could escape the digital realm and wreak actual physical destruction - in this case, on a nuclear facility.

In this course, you'll learn how to create a **Cyber Weapon** like Stuxnet using Python, Go programming language, ARM assembly language, C, and C++.

Dive deep into the concepts of **Cyber Security** and Cyber Warfare by learning to design, build, deploy, and operate Cyber Weapons for National Security.

## BECOME A CYBER WARRIOR

Earn your Badge in Cybersecurity with a specialization in Cyber Weapons Design.



**LEVEL 1**  
4 Weeks  
≈ 220 hours  
of training  
& engagement



**LEVEL 2**  
8 Weeks  
≈ 440 hours  
of training  
& engagement



**LEVEL 3**  
12 Weeks  
≈ 660 hours  
of training  
& engagement



**LEVEL 4**  
16 Weeks  
≈ 880 hours  
of training  
& engagement





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



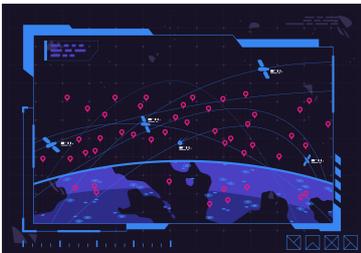
## CYBERSECURITY & CYBER WARFARE

Components of a Cyber Weapon and how to put it all together.



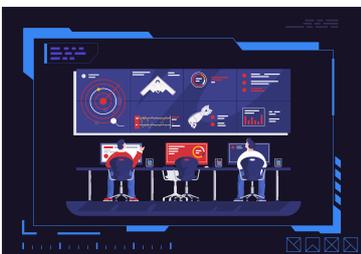
### PAYLOAD

Learn to build multiple payloads for your Cyber Weapon. Your main payload would attack the PLCs to disrupt its default operation, while another payload performs a Man-in-the-Middle attack to fake the inputs coming from the PLC's I/O modules and tell its output to do what it wants, not what the stock hard-coded logic says. At the same time, program the payload to replay previously recorded input data to make the PLC logic and the operator think that all is well.



### DELIVERY SYSTEM

**Stealth:** Learn to build a worm that executes all routines related to the main payload of the attack; a process that automatically executes the propagated copies of the worm; and a rootkit component that hides all malicious files and processes, to prevent detection of your Cyber Weapon.  
**Precision:** Learn to write code that enables your worm to stay dormant while it is staking out the target, reactivating itself & attacking systems when the right conditions are met.



### Command and Control

Program your Cyber Weapon to phone home when needed. Your weapon would be designed to operate autonomously, but you will also learn how to code Command and Control capabilities (Fly-by-Wire) to flip the kill switch if and when required, to track the health of the worm itself, to monitor its operations, to collect telemetry, and to perform version control - update the worm on-the-fly as you learn from its behaviour while it navigates hostile territory.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## SYLLABUS, LEVEL 1

4 Weeks ≈ 220 hours of training & engagement

### Data Structures and Algorithms

A good understanding of algorithms and the knowledge of when to apply them is crucial to producing software that not only works correctly, but also performs efficiently. The following topics on Data Structures & Algorithms (DSA) are covered in Level 1 of this course.

### Secure Network Programming

Learn to think like a Cracker so that you can develop effective, defensive code. In this module, you'll learn hacking techniques and get insights into understanding how to prevent hacking issues in your code. You will also learn to write and use scanners, sniffers, exploits, and how to write network security test harness for application and infrastructure.

### Hack with Python

Learn to program in Python while making and breaking ciphers—algorithms used to create and send secret messages. Make, test, and hack Python programs that encrypt text with ciphers like the Transposition cipher and Vigenère cipher. Learn to write Python code for the Reverse and Caesar ciphers, and then work your way up to public key cryptography - the type of encryption used to secure today's online transactions, including digital signatures, email, and Crypto currency like Bitcoin.

### Talk to the Machine

Dive into machine organization without the extra overload of learning assembly language programming. Examples in C/C++, Python, Go lang, Java, and JavaScript, the topics below fills in the low-level details of machine organization that are often left out of computer science and engineering courses.

### Think Low-Level, Write High-Level

Learn to write portable and efficient programs by analyzing the output of compiler and interpreters. Learn the types of machine code statements that compilers and interpreters generate for common control structures and explore how to choose the best statements when writing High-Level Language code. Design & write shorter and faster programs that translate into efficient machine code.

### On Cybersecurity

Beginning with the use of antipatterns and moving through improvements in security architecture, customizing tools, effective pen testing, and network monitoring, learn how to build security into an organization's systems.

Continues...





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## SYLLABUS, LEVEL 1

4 Weeks ≈ 220 hours of training & engagement

...In continuation

### Crack the Cybersecurity Interview

Hone your skills with Sprint Coding/Programming Competitions, Marathon Hackathons, Cyber War Games, Catch-The-Flag (CTF) competitions, Crack-Me competitions, Cyberware Drills, Cybersecurity Incident Simulation exercises, Puzzle solving through Code for sharpening logical aptitude, and Mock Interviews.

### Version Control using Git & GitHub

Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later. Using a VCS also generally means that if you screw things up or lose files, you can easily recover. In this module, you'll learn to use version control using Git & Github.



## BECOME A CYBER WARRIOR

Earn your Badge with a specialization in Cyber Weapons Design.



**LEVEL 1**  
4 Weeks  
≈ 220 hours  
of training  
& engagement



**LEVEL 2**  
8 Weeks  
≈ 440 hours  
of training  
& engagement



**LEVEL 3**  
12 Weeks  
≈ 660 hours  
of training  
& engagement



**LEVEL 4**  
16 Weeks  
≈ 880 hours  
of training  
& engagement





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## SYLLABUS, LEVEL 2

8 Weeks ≈ 440 hours of training & engagement

**Everything in Level 1 plus additional subjects as highlighted below.**

### Forge your Weapons, Part I

In this module, you'll learn how to move from a theoretical understanding of offensive computing concepts to a practical implementation. Instead of relying on another attacker's tools, you'll learn to forge your own weapons using Python.

### Evade Antivirus programs

Learn to build your own scripts to evade antivirus programs, and to verify evasion.

### Forge your Weapons, Part II

Learn to build your own tools for Network Traffic Analysis, to passively sniff Wireless Traffic, for listening to Probe Requests, to locate Hidden Network Beacons, to de-cloak Hidden Networks, to analyze Metadata, to investigate application artifacts, to analyze Mobile Backups, to analyze Wireless Access Points, to recover deleted items in the Recycle Bin, for detecting FireSheep, for stalking with Bluetooth and Python, for taking over Printers with Python, and much more.

### Go Programming Language

The Go Programming Language was conceived at Google. Go is especially well suited for building infrastructure like networked servers, and tools and systems for programmers, but it is truly a general-purpose language and finds use in domains as diverse as graphics, mobile applications, and machine learning.

### Mobile Forensic Investigations

Learn to conduct mobile device, cloud, IoT, and UAS forensic investigations. Find out how to collect prosecutable evidence, uncover hidden files, and lock down the chain of custody.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## SYLLABUS, LEVEL 3

12 Weeks ≈ 660 hours of training & engagement

**Everything in Level 1 & Level 2 plus additional subjects as highlighted below.**

### Writing Rootkits & Bootkits

In this module, you'll learn how to create sophisticated, advanced attacks that bury deep in a machine's boot process or UEFI firmware. You'll understand in detail the delivery stage of threats against BIOS and UEFI firmware in order to create worms that can evade detection.

### Malware Analysis

Learn to analyze, debug, and disassemble malware. Malware Analysis is a cat-and-mouse game with rules that are constantly changing. Through this module, we ensure that your fundamentals are strong enough to handle any situation that is thrown at you.

### Programming in C

C programming stands as the cornerstone of system programming, offering unparalleled control, efficiency, and portability. Its direct access to hardware and low-level manipulation capabilities make it indispensable for tasks involving operating systems, device drivers, and embedded systems. Mastering C provides a solid foundation, enabling programmers to craft precise, high-performance code. With its widespread industry use and extensive community support, understanding C inside out remains essential for any programmer navigating the intricacies of system-level development.

### Programming in C++

C++, an extension of the C language, introduces powerful features such as object-oriented programming, making it a versatile language for system programmers. Its ability to combine procedural and object-oriented paradigms facilitates efficient code organization and reuse. C++ empowers developers with features like classes, inheritance, polymorphism, and templates, enhancing code structure and scalability. With its rich standard library and support for low-level manipulation, C++ serves as an indispensable tool for system software, game development, and performance-critical applications. Mastery of C++ provides programmers with a robust skill set essential for crafting complex, high-performance systems.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## SYLLABUS, LEVEL 4

16 Weeks ≈ 880 hours of training & engagement

**Everything in Level 1, Level 2 & Level 3 plus additional subjects as highlighted below.**

### Assembly Language Programming

Learning Assembly Language is a great way to learn about system architecture. In this module, we'll learn how to program the Raspberry Pi at the lowest level with Assembly Language Programming for the ARM processor. Even though the Raspberry Pi is credit card sized, it is still a sophisticated computer with a quad-core processor, a floating-point co-processor, and a NEON parallel processing unit. What you learn about the Raspberry Pi is directly relevant to any device with an ARM processor, which includes nearly every cell phone and tablet.

### Hacking Cars

Get an understanding of a vehicle's communication network and learn how to intercept data and perform specific hacks to track vehicles, unlock doors, glitch engines, flood communication, and more.

### Hacking UAVs

Learn how to Intercept and Spy on UAVs, and how to intercept the signal Traffic. Learn to dissect the Protocol and how to craft 802.11 Frames with Scapy. Learn how to finalize the Attack, and emergency land the UAV.





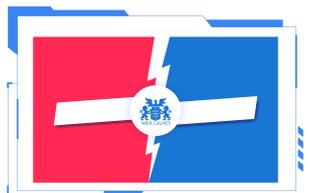
# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## WAR GAMES

You will participate in simulated environments and scenarios that would imitate real-world cyber attacks, defences, and strategies. These games are used to enhance your skills, knowledge, and preparedness in dealing with cyber threats and attacks.



### Red Team vs. Blue Team

These simulations involve two teams—the Red Team (attackers) and the Blue Team (defenders). The Red Team's goal is to breach the security of a network or system while the Blue Team works to defend it. These simulations will help you understand attack techniques, defensive strategies, and the importance of proactive security measures.



### Capture The Flag (CTF)

CTF competitions involve various challenges where you'll have to find and exploit vulnerabilities in different systems or applications to capture digital flags. Challenges will include cryptography, reverse engineering, web exploitation, binary exploitation, and more. CTF challenges will enhance your skills in penetration testing, forensics, and exploit development.



### Fire Sale

You will participate in simulations of a coordinated cyber attack that are directed towards a country's critical infrastructure and financial systems and aims to cripple various essential services and systems causing widespread chaos and disruption. Learn to develop strategies on how to prevent, counter & launch Fire Sale category attacks.



### Bug Bounty

While not direct competitions, bug bounty programs offer a platform for ethical hackers to find vulnerabilities in software or systems. This practice encourages responsible disclosure and rewards for discovering and reporting vulnerabilities, contributing to improving overall cybersecurity. Learn how to set-up & operate Bug Bounty programs for your organization.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)

## SHARPEN YOUR AXE

Use Lab Exercises, Projects, Coding Competitions, and Hackathons as opportunities to practice and apply your programming skills in real-world scenarios.



To augment your proficiency in Cybersecurity, you will be regularly challenged with various assignments like coding challenges, algorithmic puzzles, trick logical, analytical, and mathematical problems - designed to enable you to think creatively and outside the box.

Expect 4 levels of difficulty in these assignments:

- **Beginner:** Exercises that test your understanding of the subject.
- **Intermediate:** Exercises that add new and thought-provoking information to the subject.
- **Advanced:** Exercises that are intended to challenge you.
- **Expert:** Exercises that are extremely difficult by comparison with most others.



The projects are designed to ensure that you not only understand the theoretical concepts of Cybersecurity & Cyber Warfare also gain hands-on experience in applying those concepts to real-world scenarios. You'll be required to collaborate as a team to attempt some projects while working as a Lone Wolf / individual contributor on others.

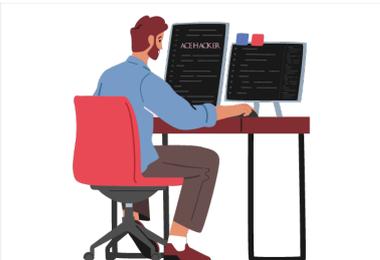
- **Four Cornerstone projects** that will reinforce in you the strong foundational knowledge of Cybersecurity & Cyber Warfare.
- **Two Keystone projects** will be more challenging, building on the knowledge you have gained through the Cornerstone projects.
- **One Capstone project**, which will be the culmination of your learning experience in this course.



Competitions and Hackathons are a great way to reinforce your learning and to challenge you to apply your skills to real-world scenarios. By participating in these events, you will gain practical experience and develop your problem-solving skills. You will be participating in a variety of events, including but not limited to:

- **Sprint Coding Competitions**
- **Marathon Hackathons**
- **Catch-the-Flag (CTF) challenges**
- **War Games**

In some competitions, you will collaborate as a team, which will aid you in developing your teamwork skills. In other competitions, you will participate as a Lone Wolf, which will challenge you to think independently and to rely on your own skills and knowledge.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)

## CERTIFICATE IN CYBERSECURITY

Based on your performance you either get a **Certificate of Excellence** or **Certificate of Completion** after successful completion of the course.



CERTIFICATE OF EXCELLENCE



CERTIFICATE OF COMPLETION



## ACE THAT CYBERSECURITY INTERVIEW

As a part of this course, you'll learn to crack Cybersecurity interviews. You'll be thoroughly trained using:

- **Mock Interviews:** We'll simulate the pressure and format of a real coding interview, allowing you to practice and improve your technical, communication, and presentation skills under similar conditions.
- Through **Whiteboarding**, you'll learn to visually represent your thought process on a physical or a digital whiteboard.
- You'll learn how to handle **Impossible Questions & Kobayashi Maru situations** which are essential in a coding interview to show adaptability, creativity, and resilience under pressure.
- Learn to solve **Algorithmic, and Mathematical and Puzzles** using Python, C, C++, Go, ARM and develop a creative & analytical mindset, logical reasoning, and problem-solving skills that are crucial in cracking a Cybersecurity interview.





# DIABOLICAL CODE

[acehacker.com/learn/cybersecurity](https://acehacker.com/learn/cybersecurity)



## BECOME A CYBER WARRIOR

Earn your Badge in Cybersecurity with a specialization in Cyber Weapons Design.

### Need more information?

Contact us.

- URL: <https://acehacker.com/learn/cybersecurity>
- [connect@acehacker.com](mailto:connect@acehacker.com)
- (+91) 988.011.2117

