

CERTIFICATION PROGRAM IN CYBER SECURITY

# ETHICAL HACKING & PENETRATION TESTING



Electronics & ICT Academy  
Indian Institute of Technology Guwahati  
An Initiative of Ministry of Electronics & Information Technology (Meity)

🕒 Duration: 3 Months

In association with



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# About The Program

The "CERTIFICATION PROGRAM IN CYBER SECURITY - ETHICAL HACKING & PENETRATION TESTING" is an intensive and comprehensive training initiative conducted by Securium Solutions Private Limited [Securium Academy], in partnership with E&ICT Academy IIT Guwahati. This prestigious program is designed to equip students with advanced skills and knowledge in the critical areas of ethical hacking and penetration testing. Through a rigorous curriculum, participants will delve into the principles of cybersecurity, learn the latest techniques in ethical hacking, and master the tools and methodologies essential for effective penetration testing.

The program stands out by offering an E&ICT Academy IIT Guwahati certification, a credential that holds significant value and recognition in the industry. This collaboration ensures that the training meets the highest educational standards and is delivered by experts in the field. Participants will benefit from a blend of theoretical knowledge and practical application, preparing them to tackle real-world cybersecurity challenges.

Upon successful completion of the program, students may also have the opportunity to secure internships with Securium Solutions Private Limited. These internships provide invaluable hands-on experience, allowing students to apply their learning in real-world scenarios, work alongside seasoned professionals, and gain a deeper understanding of the cybersecurity landscape. This Certification program not only enhances students' technical skills but also significantly boosts their career prospects, making them highly competitive candidates in the rapidly growing field of cybersecurity.



# About Electronics and ICT Academy



Electronics & ICT Academy  
Indian Institute of Technology Guwahati  
An Initiative of Ministry of Electronics & Information Technology (Meity)

The Ministry of Electronics and Information Technology initiated the Electronics and ICT Academy (E&ICT Academy) to boost digital proficiency among students and professionals. Set up in collaboration with premier institutes including IITG, the academy provides quality education via assorted training, workshops and certifications.

It addresses skill gaps in emerging technologies such as AI, machine learning and IoT. Industry collaborations help match training with market needs. The IIT Guwahati E&ICT Academy plays a key role in readying a technically-skilled workforce for the rapidly evolving digital landscape by bridging demand and supply gaps.



# About Securium Academy

Securium Academy operating under the brand name Securium Solutions Private Limited, is a leading pioneer in the field of cybersecurity services and consulting. Renowned for its commitment to excellence and innovation, Securium Solutions offers a comprehensive range of cybersecurity solutions designed to protect organizations from evolving digital threats. The company specializes in services such as ethical hacking, penetration testing, vulnerability assessments, security audits, and incident response, catering to clients across various industries.

Securium Academy, the educational arm of Securium Solutions, is dedicated to empowering individuals and organizations with the knowledge and skills needed to navigate the complex world of cybersecurity. By providing cutting-edge training programs and certifications, Securium Academy aims to bridge the gap between theoretical knowledge and practical application. Their programs are crafted by industry experts and cover a wide spectrum of cybersecurity topics, ensuring that participants are well-equipped to meet the demands of the ever-changing digital landscape.

Partnering with prestigious institutions like E&ICT Academy, IIT Guwahati and Securium Academy offers top-tier training opportunities that combine academic rigor with real-world relevance. These collaborations not only enhance the quality of the educational experience but also provide participants with credentials that are highly respected in the industry. Through its comprehensive training programs, hands-on learning approach, and strong industry connections, Securium Solutions Private Limited [Securium Academy] is committed to shaping the next generation of cybersecurity professionals and leaders.

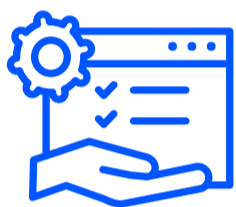


# Eligibility Criteria

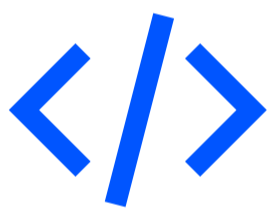
To Apply, Candidates should meet the criteria of



Would have graduated a bachelor's degree with 50% Marks minimum.



No Need of any prior Experience



No need of Programming Languages at this level

## Timescale

- ✓ 50+ hours of Live Online Training
- ✓ 25+ Sessions
- ✓ 3 Month sessions

# Future Job Roles after this Program

- ✓ **Ethical Hacker:** Conducts authorized simulated attacks on computer systems, networks, and applications to identify vulnerabilities and weaknesses that could be exploited by malicious hackers.
- ✓ **Application Security Analyst:** Responsible for Analyzing Application Vulnerabilities, Building Robust Application Architecture
- ✓ **Network Security Engineer:** Assess and maintains network security infrastructure, including firewalls, intrusion detection Systems, Honeypots, and VPNs.

## Key Learning Outcomes

- ✓ Grasp the fundamental concepts, terminology, and technologies in cybersecurity
- ✓ Understand the principles of Confidentiality, Integrity, and Availability (CIA), along with the cyber kill chain, various threats, attacks, vulnerabilities, and foundational security concepts.
- ✓ Examine how Confidentiality, Integrity, and Availability are applied within network security models, system security models, and security frameworks.
- ✓ Gain proficiency in identifying and analyzing data breaches and cyber attacks.
- ✓ Campus immersion programme at EICT Academy IIT Guwahati (only for successful learners)

# How to Apply



## Application Submission

Apply for the program by completing the application with one page cover letter stating your Interest and Qualifications for the program.



## Application Review

Admission Counselors will review applications and cover letter to Qualify your Application



## Admission

Candidates admission will be confirmed by paying the program fee upon proper indication by the counselor or concern team/person.

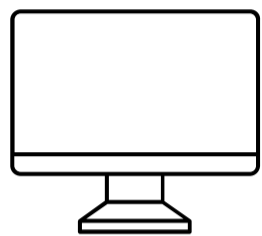
## Who's this program is for

This program is designed to fulfill the upskilling requirements of undergraduate and graduating students specializing in BFSI, cybersecurity, and fintech fields who already have a basic technical understanding of cybersecurity. It is especially beneficial for those aspiring to pursue job roles/positions such as, but not limited to:

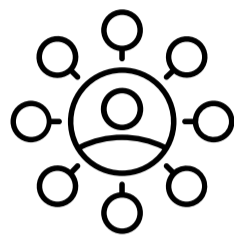
- ✓ Ethical hacker
- ✓ Network Security Consultants
- ✓ Threat Hunters
- ✓ Risk Assessment Analysts
- ✓ Security Analysts
- ✓ Junior Penetration Testers
- ✓ Security Architects
- ✓ Graduate students & working professionals



# Pre-Requisites



**Basic Computer  
Fundamentals**



**Network  
Fundamentals**



**Network Devices  
Fundamentals**



# CORE TOPICS

## Module 1

### Fundamentals and Essential Terminologies

- Network Devices and Fundamentals
- Introduction to Cyber Security & Information Security
- Fundamentals of Ethical hacking Concepts
- Understanding Ethical Hacking Concepts
- CIA Triad, Hacker Terminologies
- Hacking Phases,
- Standards and Cyber Laws

## Module 2

### Open Source Intelligence and Information Gathering

- Active and Passive Information Gathering Techniques
- Scanning Concepts
- Scanning Techniques and Tools
- Scanning beyond Firewall
- Countermeasures
- Enumeration Concepts
- Enumeration Techniques
- Enumeration Tools and Hands on

# Module 3

## Windows and Linux Exploitation

- Exploit Making
- Windows exploitation
- Linux Exploitation
- Privilege Escalation
- File Extraction Techniques
- Clearing Tracks
- Buffer Over Flow

# Module 4

## Introduction to Malware Threats

- Virus and Worm Making
- Introduction to Trojans and RAT
- Encoding and Obfuscation
- Malware Analysis
- Static Malware Analysis
- Dynamic Malware Analysis

# Module 5

## Network Attacks

- Man in the Middle Attacks
- Attacking Methodology – ARP Poisoning, Dns Poisoning, SSL Stripping, DHCP Starvation Attacks
- DOS Attack & DDOS Attack
- Evading Firewall, IDS and Honeypots

# Module 6

## Network Penetration Testing

- Introduction to Internal Penetration Testing
- Introduction to External Penetration Testing
- Enumeration Concepts
- Vulnerability Assessment
- Exploit Research
- Exploitation and Validation

# Module 7

## Application Security Assessment/Penetration Testing

- Introduction to Web Application, Web server Architecture
- Fundamentals of Application and Application server
- Information Gathering Techniques of Web Application
- Introduction to Burpsuite and information gathering tools
- Introduction to Application Security Standards [OWASP, SANS, NIST]

# Module 8

## Mobile Device Hacking

- Mobile Hacking Techniques
- Mobile Hacking Vectors
- ADB
- BYOD Policy

# Module 9

## Cryptography and Fundamentals

- Difference Between Encryption, Encoding
- Different Encryption Techniques
- Encryption at Rest
- Encryption at Transit
- Encryption Tools and Platforms

# Module 10

## Bonus Module

- Fundamentals of Reverse Engineering
- Reverse Engineering by Algorithm Reversing
- Reverse Engineering By File manipulation



# Virtual Environment and Distributions



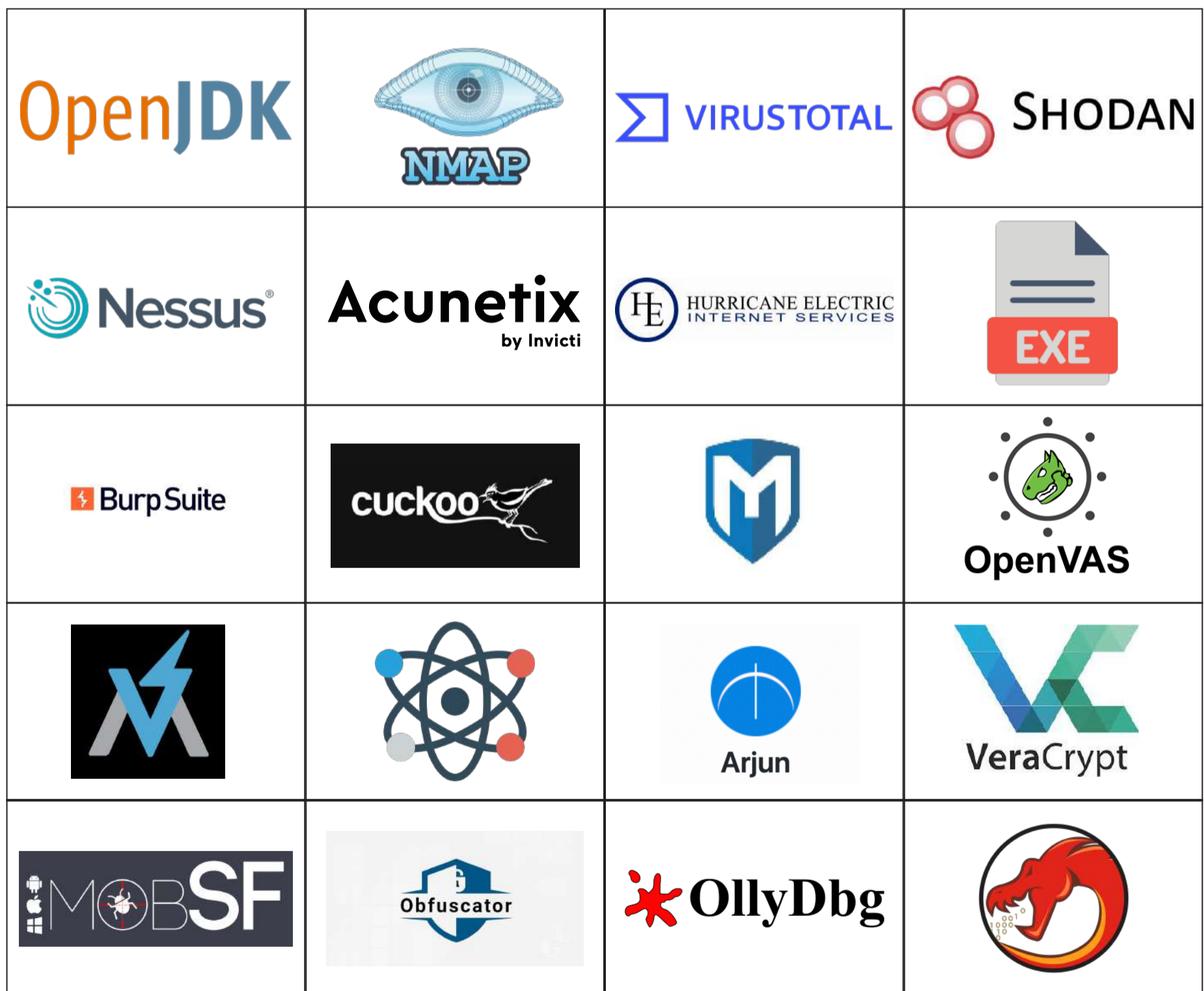
Windows 11

Windows Server 2019

Ubuntu

Kali Linux

## Tools



# Learning Outcomes

- ✓ Mastering Network Penetration Testing
- ✓ Mastering Web Application Penetration Testing
- ✓ Mastering Ethical Hacking
- ✓ Mastering Endpoint Exploitation
- ✓ Mastering Malware Analysis Processes
- ✓ Mastering Industry demand Skills

## Course Fees

₹ 41,300 + 18% GST

- ✓ No cost EMI are Available

**CEH**<sup>v13</sup>



Add the CEH v13 with AI or OSCC certification course for just ₹55,000 extra

# Certificate

Certificate ID:



**Electronics & ICT Academy**

**Indian Institute of Technology Guwahati**

*Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India*

## **CERTIFICATE OF COMPLETION**

This is to certify that Mr./Ms.

**Name**

has successfully completed the online

**“Certification Program in Cyber Security, Ethical Hacking and Penetration Testing”**

organized by **Electronics & ICT Academy Indian Institute of Technology Guwahati**

held from --/--/---- to --/--/----

\_\_\_\_\_  
**Dr. Gaurav Trivedi**  
Principal Investigator  
Electronics & ICT Academy  
Indian Institute of Technology Guwahati

\_\_\_\_\_  
**Ms. Neha Singh**  
Director  
Securium Solutions Private Limited  
[Securium Academy]

*This is an online certification programme conducted jointly by E&ICT Academy, IIT Guwahati and Securium Academy towards upskilling.*



# Corporate Internship Opportunity



Partnering with Securium Solutions, a leading pioneer in cybersecurity services and consulting, and E&ICT Academy, IIT Guwahati presents a remarkable opportunity for students to advance their careers in the cybersecurity field. Through this collaboration, students receive top-tier training accompanied by an esteemed E&ICT Academy, IIT Guwahati certificate enhancing their professional credentials. This program not only equips participants with cutting-edge cybersecurity skills and knowledge but also provides a pathway to internships at Securium Solutions Private Limited. Such internships offer invaluable real-world experience, allowing students to apply their learning in practical settings, network with industry professionals, & gain insights into the latest industry practices. This combination of high-quality education, certification, and hands-on experience significantly boosts their career prospects, positioning them as highly skilled and competitive candidates in the rapidly evolving cybersecurity job market.

# Securium Solution PVT. LTD.

## (Securium Academy)

[www.securiumsolutions.com](http://www.securiumsolutions.com) | [www.securiumacademy.com](http://www.securiumacademy.com)

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