



THE NATIONAL INSTITUTE OF ENGINEERING

(An Autonomous Institution)

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CYBERSECURITY CENTER OF EXCELLENCE (CCOE)

A joint initiative of NIE & Cyberverses foundation



CYBERVERSE
FOUNDATION
SECURING THE DIGITAL UNIVERSE

PROSPECTUS

Established by Departments of:

Computer Science and Engineering

&

Information Science and Engineering





NIE is an autonomous institution approved by AICTE and accredited by NAAC, offering 7 undergraduate and 10 postgraduate programs. It is recognized under the TEQIP initiative and has departments approved as research centers by VTU and AICTE. Seven undergraduate and three postgraduate programs are accredited by the National Board of Accreditation. NIE operates two campuses in Mysuru, with specialized programs in Computer Science and related fields at the North campus.



Cyberverse Foundation, a Section 8 company, is an organization dedicated to building a robust cybersecurity ecosystem in India. Bherunda Foundation and Mysore Royal Academy Trust (MYRA) joined hands to co-found Cyberverse Foundation with its registered corporate office in Mysuru, aims to make Mysuru the chosen cyber security destination. Its vision is to be the beacon for Cybersecurity in India, with a mission of spreading awareness and building a sustainable Cybersecurity ecosystem, Developing skilled human capital, latest technologies, and processes in support of Digital India.

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CCoE: Established in 2024

The newly established Cybersecurity Center of Excellence (CCoE) in collaboration with the Cyberverse Foundation is a pioneering initiative aimed at empowering students, faculty members, and industry professionals with cutting-edge knowledge and skills in the ever-evolving field of cybersecurity. The CCoE is dedicated to fostering innovation, enhancing technical expertise, and bridging the gap between academic learning and industry requirements. Through specialized training programs, workshops, and hands-on projects, the center aims to create a robust ecosystem for cybersecurity education and research, preparing the next generation of leaders to navigate the complexities of the digital world.

Vision

"To be a leading center for cybersecurity education and innovation, shaping the next generation of digital security leaders."

Mission

1. To empower students, faculty, and professionals with advanced cybersecurity skills through collaboration and hands-on training.
2. To foster industry partnerships that enhance practical learning and career opportunities in cybersecurity.

The growing need for Cybersecurity Expertise

The demand for cybersecurity graduates is rapidly increasing as digital transformation exposes sectors to evolving cyber threats, especially in high-risk areas like finance, healthcare, and government.

Key Drivers:

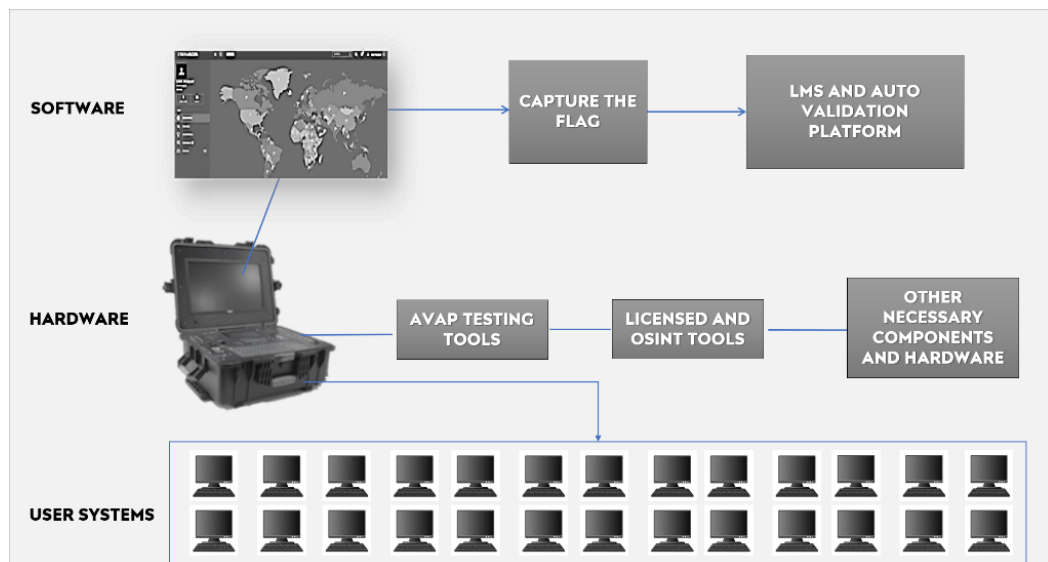
- ❖ **Rising Cyber Attacks:** Increased complexity of attacks demands skilled professionals.
- ❖ **Industry-Specific Needs:** Critical sectors require specialized security.
- ❖ **Digital Transformation:** Online expansion heightens security needs.

Job Roles:

- ❖ **Diverse Opportunities:** Security Analyst, Penetration Tester, Cybersecurity Engineer, Forensic Analyst, Compliance Specialist, Red/Blue Team roles, and Security Consultant.

Cyber Security Lab Connect:

The Cybersecurity education toolkit includes software and hardware tools supported by Operating system which can carry out various industry related cutting-edge standard based cybersecurity activities. It is a one-stop shop for self-service help, frequently asked questions, and troubleshooting.

Cyber Connect Toolkit Architecture:

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Internal Committee for CCoE:

Sl. No.	Name	Designation
1.	Dr. Rohini Nagapadma, Principal	Chairperson
2.	Dr. K C Manjunath, Vice Principal	Chairperson
3.	Dr. Anitha R, Prof. & Head, CSE	Advisor
4.	Dr. Girish, Prof. & Head, ISE	Advisor
5.	Dr. Nandini B M, Asst. Prof., ISE	Chief Mentor
6.	Dr. Narender M, Assoc. Prof. CSE	Coordinator
7.	Dr. Shashank D, Assoc. Prof. ISE	Coordinator
8.	Ms. Prathibha B S, Asst. Prof., ISE	Outreach Coordinator
9.	Mr. Rajesh N, Asst. Prof., ISE	Outreach Coordinator
10.	Mrs. Mayura D T, Asst. Prof., ISE	Outreach Coordinator
11.	Mr. Suhas Bharadwaj, Asst. Prof., ISE	Outreach Coordinator
12.	Mr. Sudeep J, Asst. Prof., ISE	Outreach Coordinator
13.	Mr. Nagendra H G, System Programmer, ISE	Instructor
14.	Ms. Anushriya. R	Student Ambassador
15.	Mr. Niraj Kulkarni	Student Ambassador
16.	Mr. Shridhar Laxman Madiwal	Student Ambassador
17.	Ms. Trupthi J	Student Ambassador
18.	Mr. Yajnith K	Student Ambassador
19.	Ms. Yashaswini H R	Student Ambassador
20.	Mr. Yuvaraaja N	Student Ambassador

Professional Cyber Security Certification Program:

Cyberverse cyber security certification program is designed to equip individuals with the knowledge and skills needed to secure and protect information systems from various cyber threats.

Professional certification program features include all the necessary tools, online learning management systems, hands-on labs, and assessment exams that tests the knowledge of security concepts, technologies, and practices.

NIE offers certification program for cybersecurity under Cyberverse-NIE brand to in-house as well as outside student and industry community.

Certification Programs
Cyber security fundamentals
Certified Professional Ethical Hacker (PEH)
Certified Web Application Pen tester (WAP)
Advanced IOT Security Pen testing Certificate (AIOT)
Professional Cyber Forensics Investigator Lab (PCFI)

**Certified Professional Ethical Hacking (PEH)
Training Program**

Modules	Topic	Learning Hours
Module 1	Basic of Hacking	2 Hours
Module 2	Kali Linux	2 Hours
Module 3	Wireless Hacking	2 Hours
Module 4	Line of Defense	2 Hours
Module 5	Malwares	2 Hours
Module 6	Cryptography	2 Hours
Module 7	Information gathering and Scanning	2 Hours
Module 8	Vulnerability analysis	2 Hours
Module 9	Stress Testing	2 Hours
Module 10	Metasploit	2 Hours
Hands-on Session	Attack on Machines	30 Hours

**Certified Web Application Pen tester (WAPT)
Training Program: Theory / lab Sessions**

Modules	Topic	Labs	Learning Hours
Module 1	What is WAPT	SQL Injection	2 Hours
Module 2	Mastering Burp Suite	SQL Injection (blind)	2 Hours
Module 3	Injections	Injection attack	2 Hours
Module 4	Cross-site Scripting and Cross-site Request Forgery	XSS (DOM)	2 Hours
Module 5	Authentication testing	XSS (Reflected)	2 Hours
Module 6	Reconnaissance	XSS (Stored)	2 Hours
Module 7	SSL and configuration testing	Brute Force	2 Hours
Module 8	Session management testing	Session Hijacking	2 Hours
Module 9	Other attacks	Insecure captcha	2 Hours
Module 10	VAPT Methodologies and Reporting	File Inclusion	2 Hours

**Professional Cyberforensics Investigator (PCI)
Training Program: Theory / lab Sessions**

Modules	Topic	Labs	Learning Hours
Module 1	Introduction to digital forensics	Write Protection	1 Hour
Module 2	Introduction to 65B certificate	Steganography	1 Hour
Module 3	Primary investigation of cyber crimes	RAM Analysis	1 Hour
Module 4	Faraday bag/box handling during crime scenario	Phishing	1 Hour
Module 5	Write protection of devices	Password Attacks	1 Hour
Module 6	Imaging and Cloning of devices	Insta Bruteforce	1 Hour
Module 7	First responder tool kit	Open Source Intelligence	1 Hour
Module 8	Deleted data recovery	Imaging & Cloning	1 Hour
Module 9	Tracking IP address	Finding Location	1 Hour
Module 10	CDR Analysis	Server Logs	1 Hour
Module 11	Audio and video forensics	Google Dorks	1 Hour
Module 12	Email authentication	Hard Disk Investigation	1 Hour
Module 13	Data authentication	65B Certification	1 Hour

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Modules	Topic	Labs	Learning Hours
Module 14	Image authentication	Mobile Forensics	1 Hour
Module 15	CCTV footage authentication	Video Forensics	1 Hour
Module 16	Banking fraud detection	Audio Forensics	1 Hour
Module 17	Transcript certificate	CDR Analysis	1 Hour
Module 18	Cyber auditing and VAPT	PDF Forensics	1 Hour
Module 19	Introduction to Crypto currency	Deleted Data Recovery	1 Hour
Module 20	Introduction to Draknet and deepweb	Network Forensics	1 Hour
		Encryption	1 Hour
		Hacking VOIP Calls	1 Hour
		Event Logs	1 Hour
		USB Rip	1 Hour
		Analyzing Metadata	1 Hour

Advanced IoT Security Pentesting (AISP) Training Program: Theory / lab Sessions

Modules	Topic	Labs	Learning Hours
Module 1	UART – Universal Asynchronous Receiver / Transmitter	UART- Code rx, tx and 2 theory questions	2 Hours
Module 2	Communication using Buspirate	UART- capture the specific flag using logic analyzer	2 Hours
Module 3	SPI – Serial peripheral Interface	UART-getting root shell	2 Hours
Module 4	SPI - Extraction and analysis of bytes	SPI- Coding specific bytes to send on bus	2 Hours
Module 5	I2C – Inter-Integrated Circuit	SPI- using logic analyzer finding a flag in stream of data in spi code given	2 Hours
Module 6	I2C – Extraction and analysis of bytes	SPI- giving already saved logic analyzer data of spi	2 Hours
Module 7	RF – Radio Frequency	SPI- dumping firmware and finding flag	2 Hours
Module 8	GNU Radio basics	I2C- Coding specific bytes to send on bus Coding i2c example in rpi	2 Hours
Module 9	AM and FM spectrum analysis	I2C- using logic analyzer finding a flag in stream of data in i2c code given	2 Hours
Module 10	Attacks in RF 2 Hours	I2C- giving already saved logic analyzer data of i2c	2 Hours
		I2C- Sniffing BME280 data using logic analyzer	2 Hours
		RF- Find correct frequency, bandwidth and timing information from GQRX	2 Hours
		RF- Identification of modulation from GQRX and/or GRC	2 Hours
		RF- Save wav file data from GQRX and find data transmit	2 Hours
		RF- Use GRC to save data and replay	2 Hours



NIE
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For registration and other queries contact:

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