M.Tech in
CyberSecurity

Defending Digital Infrastructure in an Evolving Threat Landscape

2 years | Live Online Sessions + Campus Immersion

Director's Message

Prof. Dharmendra Singh
Director, IIIT Vadodara

Dear Students,

Welcome to IIIT Vadodara, where innovation meets excellence.

The nation is progressively heading towards "Viksit Bharat 2047". The objective of e-programs at IIIT Vadodara is to contribute to nation building by imparting quality skill oriented education for knowledge enhancement in the field of Computer Science, Information Technology, Artificial Intelligence, Data Analytics and allied areas.

As an institution, academia has been a cornerstone of inspiration, driving both individual and organizational motivation. It is through quality education that we broaden our horizons for personal growth and contribute significantly to societal advancement in technical innovation and development. Over the years, I have witnessed first-hand the transformative impact that high-quality education has on students, organizations, and society.

At IIIT Vadodara, our vision is clear: to harness the boundless talents of our youth and propel them towards global innovation. We are committed to building a community of motivated individuals and organizations dedicated to national growth and advancement. Through robust outreach programs, we tackle societal challenges head-on, fostering a culture of innovation, leadership, and entrepreneurial spirit. Our personalized educational approach ensures that our students emerge as world leaders and lifelong learners.

As a proponent of people-centric leadership, I firmly believe that diversity, equality, and inclusion are the bedrocks of any successful organization. My leadership approach is rooted in consensus-building and inclusive decision-making, involving all stakeholders at every step. Upholding ethical standards will remain the foundation of our institution, guiding every action and decision we make.

I extend a warm welcome to all who wish to join us. You are about to become part of a vibrant and dynamic community dedicated to excellence. Your journey at IIIT Vadodara will be rich with learning, discovery, and growth. Seize the opportunities, engage deeply with your peers and faculty, and make the most of the resources available to you. This experience will shape not only your career but also your character and vision for the future.

Together, let's elevate IIIT Vadodara to a beacon of excellence, innovation, and societal impact. I am here to support each of you on your academic and professional journeys.

Welcome aboard.

Warm regards,
Prof. Dharmendra Singh
Director, IIIT Vadodara

About Indian Institute of Information Technology Vadodara

Established in 2013 by the Ministry of Education, Government of India, Indian Institute of Information Technology Vadodara (IIIT-V) is an Institute of National Importance created under a Public–Private Partnership model with the Government of Gujarat, Gujarat State Fertilizers and Chemicals Ltd., and Tata Consultancy Services. The institute was founded with a focused mandate to advance knowledge in Information Technology and develop globally competitive professionals for the evolving digital economy.

IIIT-V currently operates from its temporary campus at Government Engineering College, Gandhinagar, and is set to transition to its permanent 62.5-acre state-of-the-art campus in Vadodara. It has also established a satellite campus at Diu (IIITV-ICD) with modern academic and residential facilities.

With over 1,200 students enrolled across undergraduate, postgraduate, and doctoral programs, and strong industry participation featuring 80+ global recruiters, IIIT-V continues to strengthen its reputation as a dynamic centre for academic excellence, innovation, and industry-aligned education.

Program Overview

The M.Tech in Cyber Security from IIIT Vadodara is designed for working professionals seeking advanced academic depth and applied capability in securing modern digital infrastructure. Structured across four semesters with a total of 80 credits, the program builds strong foundations in cyber security principles, computer networks, secure programming, and network defence, while progressing into specialised areas of modern security architecture.

The curriculum integrates key domains such as Applied Cryptography, Vulnerability Assessment & Penetration Testing (VAPT), Cloud Security, Digital Forensics, Malware Analysis, Threat Intelligence, and Security Operations Centre (SOC) management, along with emerging applications of AI/ML for cyber security and data-driven security analytics.

Through a blend of core courses, elective specialisations, and a final project or research dissertation, the program prepares professionals to design, analyse, and implement resilient cyber security systems across enterprise environments.

Key Program Details

Format	Hybrid
Duration	2 years
Mode	Online + Campus Immersion
Course Fees	₹ 3,40,000

Weekly Learning Commitment:	20–24 Hours
Theory Sessions:	14–15 hours
Tutorials & Hands-on Learning:	2–5 hours
Supervised Labs:	5–8 hours
Unsupervised Lab Assignments:	5–8 hours

Program Eligibility

- A Bachelor's degree (B.E./B.Tech.) in a relevant engineering discipline (like Computer Science, IT, ECE) or a Master's degree (MCA/MSc) in a related field.

- A consistent academic record with a minimum aggregate score (e.g., 60% or a 6.0 CPI) in the qualifying degree.

- Relevant work experience in the IT, networking, or software development industry, as the program is structured for working professionals.

Who Is This Program For?

This program is designed for professionals looking to develop advanced expertise in cyber security:

- **Software engineers and IT professionals** transitioning into cyber security roles

- **Network and infrastructure engineers** seeking advanced capabilities in secure system architecture

- **Security analysts and practitioners** aiming to strengthen their technical depth in threat detection and defence

- Technology professionals responsible for enterprise security, compliance, and risk management

- Professionals aspiring to work in offensive security, digital forensics, security operations, or threat intelligence

Why Choose IIIT Vadodara ?

Institute of National Importance
Earn your M.Tech from an Institute of National Importance, strengthening long-term academic credibility and professional recognition.

On-Campus Immersion
Participate in campus immersion experiences designed to strengthen technical learning, peer networking, and faculty engagement.

Esteemed Faculty
Learn from distinguished IIIT Vadodara faculty with strong research backgrounds and deep expertise in cyber security, distributed systems, and information security.

Specialise Across Offensive & Defensive Security
Build expertise in penetration testing, malware analysis, threat intelligence, SOC operations, risk management, and compliance frameworks, preparing you for diverse security roles.

Hands-On Exposure to Modern Security Practices
Work with tools, frameworks, and real-world methodologies used in vulnerability assessment, digital forensics, cloud security, and security analytics.

Solve Real-World Cyber Security Challenges
Apply your learning through a final project or dissertation that demonstrates the ability to analyse and mitigate real cyber threats.

Prepare for Advanced Cyber Security Roles
Develop the depth required for roles such as Security Architect, Threat Intelligence Analyst, Penetration Tester, Security Consultant, SOC Lead, and Cyber Security Manager.

IIIT Vadodara Alumni Status
Join the IIIT Vadodara alumni network, enabling professional connections across industry and technology ecosystems.

Program Modules

Year 1: Certificate

Semester 1

Course Code	Course Title	L-T-P-C	Credits
EMCY101	Foundations of Cyber Security	3-1-0-4	4
EMCY102	Computer Networks & Communication Protocols	3-0-2-4	4
EMCY103	Network Security & Firewalls	3-0-2-4	4
EMCY104	Secure Programming & Code Analysis	2-0-4-4	4
EMCY105	Cyber Laws, Ethics & Compliance	3-1-0-4	4
Total Credits			**20**

Semester 2

Course Code	Course Title	L-T-P-C	Credits
EMCY201	Applied Cryptography	3-0-2-4	4
EMCY202	Operating System & Endpoint Security	3-0-2-4	4
EMCY203	Vulnerability Assessment and Penetration Testing (VAPT)	2-0-4-4	4
EMCY204	AI & ML for Cyber Security	3-0-2-4	4
EMCY205	Data Science for Security Analytics	3-1-0-4	4
Total Credits			**20**

Year 2: PG Degree

Semester 3			
Course Code	**Course Title**	**L-T-P-C**	**Credits**
EMCY301	Cloud Security Architecture and Operations	3-0-2-4	4
EMCY302	Elective-1	3-1-0-4	4
EMCY303	Elective-2	3-1-0-4	4
EMCY304	Elective-3	3-1-0-4	4
EMCY305	Elective-4	3-1-0-4	4
Total Credits			**20**

Semester 4			
Course Code	**Course Title**	**L-T-P-C**	**Credits**
EMCY401	Elective-5	3-1-0-4	4
EMCY402	Elective-6	3-1-0-4	4
EMCY403	Project Work / Research + Dissertation	0-0-24-12	12
Total Credits			**20**

Elective Pool - 3 from each pool - Mandatory	
Offensive Security & Threat Intelligence	**Defensive Security & GRC**
Malware Analysis & Reverse Engineering	Security Operations Center (SOC) Management
Network Exploitation and Forensics	Threat Hunting & Deception Technologies
Wireless & IOT Security	Cloud Native Security Operations & Resilience
Web and Mobile Application Exploitation	Information Security Risk Management
Advanced Penetration Testing and Exploit Development	Security Auditing & Compliance Frameworks
Digital Forensics & Incident Response	Identity and Access Management (IAM)
Advanced Threat Intelligence and Hunting	Data Loss Prevention (DLP)
Application Security Testing (DAST/SAST)	Third Party RisK Management

Alumni Benefits

- **Alumni Status from IIIT Vadodara**
  Become part of a growing network of technology professionals and graduates.

- **Access to a Diverse Professional Network**
  Connect with alumni across industry, academia, startups, and government sectors.

- **Collaboration Opportunities**
  Explore partnerships in industry projects, research initiatives, and consulting engagements.

- **Peer-to-Peer Learning Ecosystem**
  Engage with experienced professionals for continuous knowledge exchange and insights.

- **Lifelong Learning & Upskilling**
  Stay updated with evolving technologies through ongoing alumni interactions.

- **Expand Your Professional Circle**
  Build meaningful connections that support long-term career growth.

Campus Immersion

Experience a mandatory 5-day on-campus immersion at Indian Institute of Information Technology Vadodara, scheduled in July or December based on your cohort. Hosted at the IIITV-ICD campus in Diu, this immersion is designed to enable in-person learning, peer interaction, and deeper academic engagement.

What's Included

- Campus Stay Accommodation at IIITV-ICD campus, Diu
- Hostel rooms on a shared basis
- In-person academic sessions and peer interactions
- Opportunity to engage with faculty and fellow participants

What's Not Included

- Travel to and from the campus
- Personal expenses during the stay

Note

Accommodation will be provided at the IIITV-ICD campus in shared hostel rooms, which are non-AC, well-ventilated, and equipped with common toilet facilities.

Program Fee

Sr No	Fees Components	Sem I	Sem II	Sem III	Sem IV
	M.Tech in CyberSecurity				
1	Registration Fees	1000	1000	1000	1000
2	Tuition Fee	85000	85000	85000	85000
3	Caution Fee (Refundable)	10000	-	-	-
4	Academic Charges Inc (Convocation Fee, Alumni Fee, Insurance, ID card Fee)	3600	2000	3500	2000
5	Campus Immersion Fee	5000	-	-	-
	Total	**104600**	**88000**	**89500**	**88000**

Note

- All fees are non-refundable.

- Additional fees may be incurred in case of repetition of courses.

- Students have the option to learn at their own pace and can also register for fewer courses than prescribed in a given semester.

- There is no minimum credit requirement each semester, however, if a student plans to not register for any credit in a semester, he/ she needs to maintain his/ her active enrollment by paying a Program Continuation Fee of Rs. 3,000 per semester

- Life/ Medical insurance (group insurance) fees may change depending on the cohort size.

Program Objectives
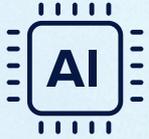
Cyber Security Architecture & Protection
To equip professionals with advanced knowledge of cyber security frameworks and technologies required to design, implement, and manage secure digital infrastructure.

Security Strategy & Risk Leadership
To prepare professionals to lead organisational security initiatives by developing effective cyber risk strategies, governance frameworks, and enterprise security policies.

Adapting to the Evolving Threat Landscape
To develop the capability to continuously assess, anticipate, and respond to emerging cyber threats, attack techniques, and security vulnerabilities.

Cyber Governance, Ethics & Regulatory Awareness
To build strong understanding of cyber laws, regulatory frameworks, and ethical responsibilities governing secure digital operations.

Offensive & Defensive Security Expertise
To develop capabilities across both offensive security practices such as penetration testing and threat hunting, and defensive practices including SOC operations and incident response.

Security Research & Analytical Investigation
To strengthen analytical, investigative, and research capabilities required to identify complex security vulnerabilities and design advanced cyber defence strategies.

Learning Outcomes

Designing Secure Digital Infrastructure
Ability to design and implement resilient computing environments using principles of network security, cryptography, and secure system design.

Identifying and Mitigating Cyber Vulnerabilities
Ability to perform vulnerability assessments, penetration testing, and security analysis to detect and mitigate potential cyber threats.

Intelligence-Driven Security Analysis
Ability to apply data analytics, machine learning, and threat intelligence methodologies to detect and analyse sophisticated cyber attacks.

Securing Modern Enterprise Environments
Ability to protect enterprise IT ecosystems including cloud platforms, operating systems, networks, and endpoint environments.

Cyber Incident Investigation & Response
Ability to conduct digital forensics investigations, analyse security incidents, and execute structured incident response processes.

Professional, Legal & Ethical Cyber Practices
Understanding of professional ethics, legal obligations, and regulatory frameworks governing cyber security operations.

Pedagogy and Assessment

Pre-Recorded Sessions

A structured combination of asynchronous (pre-recorded) sessions enabling flexibility while ensuring academic rigour and real-time faculty interaction.

Interactive Live Sessions

Engage in faculty-led live online classes designed to deepen conceptual understanding and encourage discussion-driven learning

Continuous Performance Evaluation

Ongoing assessment through quizzes, assignments, and project-based work to reinforce conceptual clarity and practical application.

Project Work

Capstone project designed to evaluate the ability to analyse real cyber security challenges and implement practical solutions.

Tools You'll Work With

NMAP

WIRESHARK

Nessus®

GHIDRA

cuckoo

AUTOPSY
DIGITAL FORENSICS

kibana

+ableau

aws

Azure

docker

yara

IDAPython

VOLATILITY

inetum

Admission Process

STEP 01 — Online Application

STEP 02 — Payment of Application Fees (Non Refundable)

STEP 03 — Document Verification

STEP 04 — Payment of Admission Fees

STEP 05 — Acknowledgement

Contact Us :

For application and any other information please get in touch with us

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